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## ORIGINAL ARTICLES.

### THE VALUE AND ACCURACY OF THE ROENTGEN METHOD OF DIAGNOSIS IN CASES OF FRACTURE.\*

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A DEMONSTRATION of the accuracy and value of this method in the diagnosis of fractures is probably the most useful view which one can take as a subject for discussion. It serves to show, in part, that the errors which have been attributed to this method are in reality due to its inaccurate employment and the misinterpretation of the results obtained.

The accurate mechanical principles employed in securing the data upon which a diagnosis by the Roentgen method is based insure absolute results when the technic of its employment is correctly understood, and the data obtained by its use rightly interpreted. These data, the skiagraphs, have the advantages of mechanical production and permanence; they can be studied by one or more observers and compared with the normal, or other pathological cases. Anatomical and surgical knowledge are as essential to the accurate employment of this method of physical diagnosis as they are to other methods. They must, however, be combined with the necessary technic in handling the apparatus and the clinical experience which fits the observer to deduce the correct diagnosis.

Such technic is essential to the employment of all the mechanical devices employed in physical diagnosis. It is as true of the laryngoscope, the ophthalmoscope and the clinical thermometer as it is of the Roentgen-ray apparatus.

The treatment of fractures by the ordinary methods has produced good functional results in the majority of cases. There is, however, in the practice of the most experienced surgeons, a proportion of cases in which the results are not at all satisfactory, and a still greater proportion in which there is, in spite of fair functional results, a wide field for improvement.

Lane of London, among others, has shown that even slight alterations in the symmetry of the skeleton, especially in the lower limbs, give rise to an unsteadiness in the gait that incapacitates the patient for the pursuance of his calling, if balancing on the feet and security in walking are at all essential. As a consequence of his studies, he has operated in many cases of simple fracture in which he found it impossible to secure complete reduction or to retain the fragments in accurate apposition. The conditions of mechanical ob-

struction found during these operations proved that satisfactory reduction and retention would have been absolutely impossible by any other than an operative method.

In reference to these cases, he says: "In every simple fracture in which it is important to the individual that the original form of his skeleton shall be retained and his mechanics suffer no alteration, the surgeon should, failing to obtain accurate apposition, as determined by the radiograph, cut down on the seat of fracture and restore the bone or bones to their original form. He must not be satisfied with what is clinically called 'good position,' when by operation he can obtain a perfect result, and in the case of the leg this is particularly important."

There is undoubtedly a large percentage of fractures in which the results can be vastly improved if the methods of diagnosis and treatment are reduced to a scientific, rather than an empirical, basis. The Roentgen method of diagnosis has shown that many fractures that were considered rare exist in a much greater proportion than was suspected, and that the functional loss which was supposed to result from a traumatism or sprain, and was termed traumatic arthritis or a "bad sprain," is often in reality the result of an undetected fracture, which it was impossible to diagnose by other methods of examination. In one instance that has come under my observation, a lady who had received a severe injury of the ankle, desired a skiagraphic examination, as "there had been so many 'bad sprains' in her family." The skiagraph showed that there had been a fracture through the external malleolus which had escaped detection, because of the extreme swelling that followed very rapidly after the injury. In another case a diagnosis of fracture of the fibula was made, and the foot placed in plaster of paris. The functional result was far from good. A skiagraphic examination showed that, instead of a fracture of the fibula above the malleolus, the fracture was through the external malleolus, entering the joint, while the tip of the internal malleolus had also been fractured, the fragment lying in such position as to entirely escape detection.

Not only have unsuspected fractures been frequently detected, but multiple fractures also have been shown to be present where only one was suspected. In addition to the detection of fractures that are only suspected, this method of diagnosis has other advantages which are exceedingly valuable. The exact line of the fracture is determined. This enables the surgeon to set the fracture with greater facility and to guard against the production of deformities which the shape of the fragments show are mechanical possibilities, or the position of the fracture line leads the sur-

\*Read by invitation at the annual meeting of the Mercer County Medical Society, held at Trenton, N. J., November 13, 1900.

geon to suspect may arise from the formation of exuberant callus. Thus, in oblique fractures, overlapping and shortening are the dangers to be avoided; in transverse fractures, angular deformity is to be feared; in spiral fractures, a rotation of one fragment on the other is liable to take place: while in fractures that involve the joints, a restriction of motion may result from a malposition of the fragments or the interference with motion due to excessive callus formation. Another advantage is that more accurate information is obtained, and without manipulation. The patient is spared unnecessary pain, while the injured tissues receive no further traumatism, and instead of being devitalized, their recuperative forces are conserved. In addition, the number of fragments, their form, their position, the amount of displacement or shortening, and the presence of small comminutions that are liable to prevent firm union, are all detected by a good skiagraph and render the exact coaptation of the fragments more certain and easier, or determine the impossibility of complete reduction without operative intervention.

This increased facility in diagnosis is not, however, the limit of usefulness in the application of this method to fractures. The accuracy of the setting and the efficiency of the fixation apparatus, or other method of treatment, can readily be determined. In four cases of fracture of the femur that have lately been examined by the Roentgen method, there was overriding of the fragments, and, although the length of the two limbs was equal, there had been no coaptation of the fragments, nor was this possible. The fracture surfaces were practically transverse, yet so roughened that reduction was impossible. Any union in such a position would have been very imperfect and the functional usefulness of the limb would have been impaired. Operation demonstrated the impossibility of securing coaptation in any other way, and secured complete restoration of function without shortening.

It has of late been so frequently demonstrated that perfect reduction and coaptation are impossible in many cases, or that the present methods of fixation are inadequate, that an ever-increasing number of surgeons are advocating and employing open operation. They restrict these interventions to cases in which the Roentgen method shows that perfect reduction cannot be secured, or that it is impossible to maintain the fragments in position with the ordinary fixation apparatus.

Von Bergmann said at the International Medical Congress that the treatment of fractures had made two very important progressive steps in the past ten years. One is the operative treatment of certain simple fractures, in order to produce more exact coaptation of the fragments; and the other, in the field of diagnosis, through the study of their pathological anatomy and the Roentgen method of diagnosis.

Of those who still oppose the operative treatment of simple fractures, Lane says: "Those who continue to assert that they are able to restore

broken bones to their original form can readily substantiate the truth of their statements now by means of the radiograph."

The consensus of the best surgical opinion is now undoubtedly in favor of operation in certain cases of simple fracture. The Roentgen method is the basis for the division of the simple fractures into those requiring operation and those that do not. If the skiagraphs show that the fragments have been properly reduced and held in position by the fixation dressing, operative intervention is unnecessary, but when the skiagraph shows that the attempts at reduction and coaptation have been ineffectual, operation should be undertaken, or, at least, as Lane says, "in any case, the patient should have the facts, including the radiographs of the fracture, in the best possible position, laid clearly before him, and he should be allowed to choose which form of treatment he prefers."

The advantages of such a course are very evi-

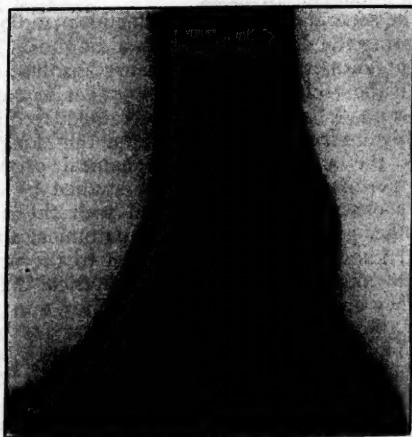


Fig. 1.—Linear fracture of tibia without displacement.

dent. The advent of the Roentgen method into the diagnosis of fractures has created a higher standard by which the results obtained in the treatment of fractures must be judged. The practitioner can no longer be said to have employed all the means and knowledge to the best of his ability in the treatment of a fracture unless he has employed, or suggested to his patient the employment of, the skiagraph. In addition, if the skiagraph shows that perfect coaptation and fixation have not been secured, he must at least offer his patient the alternative of operative intervention and employ it if it is desired.

The skiagraph has been admitted as evidence. Undoubtedly, many suits for damages will be based upon its findings. The safety of the practitioner lies in its employment to prove that the reduction and fixation have been accomplished, or, if not, he should have proof that he suggested its employment to the patient and was refused its aid. The skiagraph, however, can never form the basis upon which the amount of damages is as-



essed. That will depend as formerly upon the functional disability and loss which the patient has sustained. It can only form a part of the evidence, as it does not take cognizance of the injury which has taken place in the soft tissues, although much may be inferred from the relative position of the bones about a joint.

Whenever a skiagraph is introduced as evidence, the defendant should demand the privilege of having a similar examination made, and should employ expert testimony to fully explain its meaning to the jury. It is especially in this connection that the accuracy of this method has been brought in question. Is the skiagraph absolutely certain to detect a fracture? Does it represent relatively the amount of osseous injury? Is the distortion so great as to make it unreliable?

It can be stated definitely that all fractures in the limbs can be detected. This method, however, has as yet its limitations and, while fractures

distortion. It is, of course, possible to produce distortions and exaggerations; they can be produced in any method of physical diagnosis. They are, however, readily recognized by a competent critic.

One of the great advantages of this method is the possibility of establishing an absolutely negative diagnosis. This is possible in all suspected fractures of the limbs. Such a negative diagnosis is invaluable to the patient. Without it he must undergo the inconvenience and expense which are necessitated by fracture treatment.

The treatment of a limb, suspected of fracture, as if a fracture existed can no longer be considered good surgery and will hereafter lay the practitioner open to the suspicion of exaggerating the severity of the injury which he has been called upon to treat.

These examinations are thus invaluable in the diagnosis and treatment of fractures. They cannot be made correctly and have their true value, except by an observer who has acquired special technic and clinical experience in conjunction with his professional education. Every medical society and medical community owe it to themselves and to their patients to see to it that some one of their number possesses the knowledge requisite to the correct employment of this method for the benefit of the community at large.

1930 Chestnut Street.

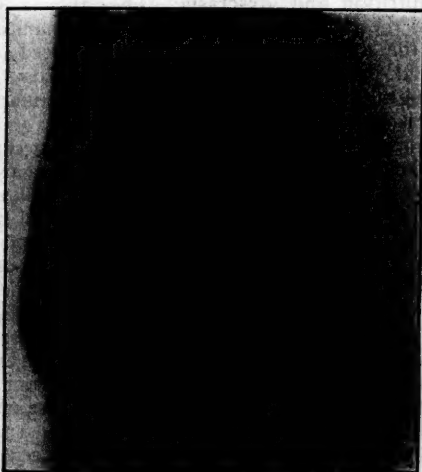


Fig. 2.—Fractures of external and internal malleoli.

of bones in the body may be detected in favorable cases, they cannot at present be excluded. From what has already been said regarding the technic and knowledge necessary to properly employ this method, it can be readily understood that the detection of all fractures in the limbs can only be made by those competent to employ this method accurately. When, however, a negative is secured in which the cancellated structure of the bones can be distinctly seen, the presence or absence of all fractures can be determined beyond a doubt. The detection of the minute linear fractures in the accompanying illustrations shows the possibilities of this method, and it is certain that no fracture would have escaped detection in either of these negatives.

Again, with a technic capable of producing such detail, it is evident that the apparatus has been employed in such a manner as to portray the entire amount of injury and to preclude the idea of

#### PHARYNGEAL ADENOIDS AND HYPERTROPHIED TONSILS.<sup>1</sup>

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*Pharyngeal Adenoids.*—In November, 1869, an English translation of Prof. Wm. Meyer's essay on Adenoid Vegetations was read before the Medico-Chirurgical Society of London. The existence of such growths had been noted before in perhaps half a dozen cases, but, until Meyer had published his observations, the common occurrence and the clinical significance of them had not been appreciated by any one. It is extraordinary that such simple and easily discovered truths should have remained undiscovered so long. But it is more extraordinary still that, after so careful and so complete a description of this important and common condition of the nasopharynx had been given to the world by Meyer, nearly twenty years should have elapsed before the profession in this country was aroused to a real sense of its importance by Hooper. During the last decade, the literature of pharyngeal adenoids has become voluminous. And yet, I am constantly confronted by evidence that it is still advisable to emphasize the importance of this topic, which some of us may be tempted to look upon as too hacknied for further serious discussion.

In a paper on the Prevention of Intracranial

<sup>1</sup> Read before the Rutland County (Vt.) Medical and Surgical Society, July 10, 1900.

and Intravenous Complications in Suppurative Diseases of the Ear, which I read before the New York County Medical Association in April, 1900, the following paragraph may be found: "The importance of diseases of the nose and throat as predisposing causes of suppurative diseases of the ear should not be forgotten. The existence of hyperplasia of the lymphoid tissue in the vault of the pharynx tends to provoke acute suppuration in the middle ear, and provides a condition favorable to recurrences of the attack. Attention has been directed to these facts by numerous writers; but the lesson has not been learned even by many who are desirous of being known as specialists in otology. Among close observers, there can be no doubt that, in patients under fifteen, an adenoid exists in almost every case of suppuration of the ear. To have any etiological bearing, however, it must promote a chronic congestion of the nasopharynx. But, in order to serve that purpose, the growth need not be very large, although the greater the adenoid the more likely will it be to cause trouble in the ears." These observations embody conclusions drawn from a personal experience in this class of cases beginning in 1885, when I performed my first operations upon pharyngeal adenoids. They are confirmatory of the conclusions reached by Meyer thirty years ago, and coincide with the subsequent experiences of other competent observers.

In the first place, therefore, I would insist that the *excitation of aural disease* is the chief mischief attributable to the existence of pharyngeal adenoids. In their presence, we may encounter deafness without inflammatory invasion of the tympanum, the deafness being due to direct occlusion of the orifices of the Eustachian tubes by the adenoid growth, or to a sequential Eustachian catarrh. In other cases, we may find that the tympanum is the site of a catarrhal inflammation, which may be either acute or chronic. Or, quite as often, we have to deal with an acute or a chronic suppurative disease of the middle ear, with perforation of the drum-head and the other classical symptoms of purulent otitis. These various diseases of the ear in patients under fifteen years of age indicate, first, that an examination for adenoid vegetations in the nasopharynx should be made; and, secondly, that such growths should be removed when they exist, whether they are large or small. It is possible that the otitis may subside, and the function of the ear be restored, in a limited number of cases, without the adenoid operation. But such cases are sure to relapse, and relapses are very deleterious to the function of the ear. Moreover, such recurrences of purulent otitis media may be followed by infective meningitis, sinus thrombosis, or abscess of the brain. The occurrence of those pathological states as consequences of otitis, though rarely justifiable, is generally due in these days to scandalous procrastination and timidity.

The deleterious influence of adenoids upon the patient's general health is a consequence second in importance only to the condition we have just

considered. Many of these patients are pale and anemic. The processes of nutrition are imperfectly performed. The patients are dull and listless. The intensity of the symptoms varies with the size of the adenoid growth, being especially marked when the nasopharynx is completely occluded. Obstruction to nasal respiration is doubtless the chief reason for degeneration of the health. But it has seemed to me sometimes that mechanical obstruction of the upper respiratory passages alone is not a sufficient explanation of the phenomena. It has seemed likely that the adenoid may secrete a poisonous substance, the absorption of which may account for some of the changes in the patient's general condition. At all events, it is wonderful what a change is wrought for the betterment of the health of adenoid victims by a thorough removal of the growths. The changes are among the most striking that are ever observed in the medical world. The child speedily casts off the signs and suggestions of malnutrition and dyscrasia. The anemia vanishes; the power of digestion becomes sufficient; and the dull and listless habit is replaced by a normal buoyancy of spirits; while by day and by night, as well, the nasal respiratory function is noiseless, complete, and regular.

Supplementary to what has already occupied our attention, we may consider the symptomatology of pharyngeal adenoids from the following standpoints: (1) Symptoms common to all cases of adenoids; (2) symptoms dependent upon the size of the adenoids; and (3) occasional accessory symptoms.

1. *The symptoms common to all cases of adenoids are* (a) hyperplasia of the lymphoid tissue in the vault of the pharynx; (b) chronic congestion of the submucous blood-vessels of the inferior turbinated body; (c) a more or less profuse mucopurulent discharge.

If one may draw conclusions from reported cases, it is apparent that some operators have overlooked the fact that a certain development of lymphoid tissue in the nasopharynx is normal and necessary to the patient's well-being. The so-called Lushka tonsil is not a pathological structure. It becomes a pathological structure only when it has undergone hypertrophy or hyperplasia. Its function is to secrete mucus for the lubrication of the nasopharynx. And when its function fails, as it does in many cases of chronic nasopharyngitis, it is well known how dry the pharynx becomes and how wretched that state makes the patient. We should have no patience, therefore, with operators who remove the normal structures of the nasopharynx (even down to the periosteum in some reported instances), for the final state of their victims must have been a discredit to the operator and to surgery in general. A brief study of the anatomy and physiology of the nasopharynx, and a short experience in palpating that region in health and in diseased conditions, will enable any one endowed with common sense to differentiate a normal state of the nasopharyngeal structures from an hyperplasia



of the pharyngeal tonsil, however slight the hyperplasia may be.

Hyperplasia of the pharyngeal tonsil varies in degree in the different cases. In some, it amounts to a more or less boggy thickening of the covering of the superior posterior wall of the nasopharynx. In others, the whole nasopharyngeal space is filled with vascular boggy masses, resembling the softer hypertrophies of the faucial tonsils. Between these extremes, we find many grades of development. The adenoid may be sessile and single, or it may be composed of many pendulous parts. It may contain sufficient connective tissue to suggest a fibroid growth. Associated with adenoids, we generally find a chronic congestion of the submucous blood-vessels of the inferior turbinated body. This constitutes a chronic vascular hypertrophic rhinitis, which, upon removal of the obstruction in the nasopharynx usually subsides without further treatment. A more or less profuse mucopurulent discharge from the nasopharynx appearing on the posterior wall of the oropharynx, and sometimes at the nostrils, is common to these cases; and its existence should excite suspicion of the presence of an adenoid.

2. *The symptoms dependent upon the size of the adenoid are* (a) alteration of the voice, as if the patient were suffering from a cold in the head; (b) mouth-breathing; (c) snoring and choking in sleep; (d) general malnutrition; (e) deafness; and (f) chronic headache and mental dulness.

These symptoms vary in intensity in every case. During the summer months they are very much less marked, as a rule, than during the colder and damper portions of the year. The improvement noted by the parents during the warm weather has often proven delusive enough to effect a postponement of radical treatment to the permanent detriment of the patient's well-being. I am sorry to admit that this responsibility has been shared too often by the family physician.

3. *The occasional accessory symptoms are* (a) asthmatic seizures; (b) habit (facial) chorea; (c) epileptiform attacks. To these may be added the state of deaf-mutism as one of the consequences of adenoids occurring in infancy, for adenoid vegetations occur in the earliest months of infancy, when they not only threaten the integrity of the ears, but sometimes interfere so much with the nursing power of the child as to endanger its life.

A positive diagnosis of pharyngeal adenoids is made by physical examination of the nasopharynx. In certain cases an expert may detect them by anterior rhinoscopy. In a limited number of cases they may be discovered by posterior rhinoscopy. Every unprejudiced physician who is experienced in throat work must realize that it would be hazardous to rely upon that method for the detection of these growths. The method of examination that will surely establish a correct diagnosis in every instance is characterized by thorough and deliberate exploration of the nasopharynx with the finger. Necessarily, the

diagnostician must be familiar with the normal and the pathological anatomy of the nose and throat. Objections to digital exploration of the nasopharynx based upon the alleged dangers of injury to the normal tissues, have no especial importance. I have never observed any harm to accrue from that procedure.

Adenoid vegetations are very rarely seen in patients who are more than twenty years of age. For, in a majority of the cases that are allowed to pursue their natural course, retrogression of the hyperplasia takes place during adolescence. It is not proper to wait for this change, however, because during the decade that elapses while it is taking place the patient's hearing may be destroyed and his general health permanently deranged.

Local applications of such alteratives and astringents as tincture of iodine and nitrate of silver may be a sufficient treatment in a small number of special cases, but the real management of pharyngeal adenoids consists in their removal by operation. It seems to me best that an operation should be undertaken in almost every case, whether the adenoid is large or small, for, while in certain patients no important symptoms may be attributable to the growth, one cannot be sure that complications in the ears may not supervene at any moment. The operation for the removal of adenoids, although a serious one, is not especially dangerous. It is true that death has occurred in a few cases of adenoid operations, but the danger of a fatal termination may be almost entirely obviated by careful preparation of the patient for operation, by caution in the administration of the anesthetic, and by celerity and precision in conducting the operative work. Hemorrhage is often profuse for a few moments, but it ceases spontaneously. I regard the administration of an anesthetic as the source of greatest danger in these operations, and I often operate without resorting to one, if I am able to manage the patient properly.

The manner of operating which I prefer, however, is briefly as follows: The child is seated upon my assistant's right knee with its head resting on his right shoulder. Chloroform is then administered until the patient is relaxed, when the mouth-gag is inserted. Then, as soon as I am sure that the patient is not too profoundly anesthetized to swallow, I proceed with the operation, first using the Gottstein curette, which is passed as firmly and as rapidly as possible several times over the region from which the growths project. Blood and detritus are then cleared away from the pharynx, and when the bleeding has subsided, I examine the nasopharynx again with my finger. It is essential that one should be especially careful to note whether the posterior nares are perfectly free, for vegetations hanging close to and obstructing them have often been overlooked, and the operation has failed in consequence. If I find that there are still growths in the nasopharynx that have escaped the curette, I locate them with my finger and remove them

with the cutting forceps, which I devised as a modification of the Loewenberg instrument.

It is rarely necessary for the patient to remain in bed more than a day, even when an anesthetic has been administered. The only after-treatment required, as a rule, is cleanliness of the wound, cod-liver oil, iodide of iron, fresh air, and good food for the general condition. Any residual catarrh of the nose or throat should be eradicated before the patient is discharged. The aural complications must be treated according to their indications.

*Hypertrophy of the Fauical Tonsils.*—Associated with pharyngeal adenoids, we frequently encounter a hypertrophy of the faucial tonsils. While it is true that the former are often unaccompanied by any increase in size of the latter, hypertrophied faucial tonsils are as a rule, in young subjects at any rate, associated with a more or less marked hyperplasia of the lymphoid tissue in the nasopharynx. The common coexistence of adenoid vegetations with hypertrophied tonsils should never be forgotten. There are, however, many cases of hypertrophy of the faucial tonsils in which no trace of an adenoid may be found.

The aggregations of modified mucous membrane between the pillars of the fauces, known as the faucial tonsils, are normal to the healthy throat. Their function is to secrete a mucus suited to the maintenance of a proper degree of moisture and for the facilitation of the act of deglutition. This is a beneficent function which should be conserved. It has been contended that the faucial tonsils are portals by which the germs of various diseases enter the body. Since the probability that this is often true has not been absolutely established, the integrity of the tonsil should be maintained, unless it has undergone pathological changes that increase its bulk or modify its function.

Hypertrophy of the faucial tonsils is observed especially before the age of puberty. During the period of adolescence resorption of the hypertrophied and diminution in the size of the normal tonsillar tissue is known to take place. But these changes are not universal, for enlarged tonsils are not very uncommon in patients who have passed that stage of development. We are unable to assign any very definite reason for the occurrence of hypertrophy of the faucial tonsils or, for that matter, of the pharyngeal tonsil either. I was once compelled to ablate hypertrophied faucial tonsils in a child eleven months old. But, in general, the existence of the hypertrophy is first noticed when the patient is between the ages of three and ten years.

As is well known the degree of the hypertrophy varies in the different cases, from a slight projection of the tonsillar tissue beyond the plane of the faucial pillars, to an enlargement that reaches to or passes beyond the median line of the oropharynx. The substance of the hypertrophy is strengthened more or less by the presence of connective tissue; and the more abundant the latter, the firmer and more fibrous is the hypertrophied

tonsil. In young patients, there is commonly no great proliferation of connective tissue, and the amputated tonsil, although firm, still breaks down easily under pressure of the thumb and finger. In adults, we are more likely to encounter the fibrous tonsil, which is firm and unyielding.

The symptoms that are attributed to hypertrophied faucial tonsils are (a) alteration of the voice, in which its tone is muffled, as though the patient were holding something in his mouth; (b) snoring and choking in sleep; (c) excessive secretion of mucus in the throat; (d) frequent attacks of acute catarrhal inflammation in the throat, and follicular tonsillitis; (e) chronic enlargement of the cervical lymphatic glands; (f) mouth-breathing; (g) deafness; (h) general malnutrition. Especial attention should be given to the changes observed in the cervical lymphatic glands, for it has happened that a diagnosis of tuberculous infection has been entertained when the enlargement of the glands was due to a non-infectious hypertrophy of the tonsils, or to a simple catarrhal pharyngitis.

The treatment of hypertrophy of the faucial tonsils depends, in a measure, upon the degree of the hypertrophy and the symptoms present. If the patient is subject to frequent attacks of sore throat, follicular tonsillitis, or peritonsillar abscess, even though the tonsils are not markedly enlarged during the period of quiescence, they should be removed by operation, if possible, or reduced in size by applications of the actual cautery, or astringent alteratives. Moderate hypertrophies of the tonsils may not give rise to any very marked symptoms, and they may be treated with the iodine preparations locally and internally. But when hypertrophy is such that the lumen of the oropharynx is materially reduced during the period of quiescence, especially in children, I am convinced that the tonsils should be removed.

The danger of serious hemorrhage after tonsillotomy has given rise to a great deal of discussion, and it must not be ignored. In the first place, a dangerous hemorrhage may be expected in "bleeders" after tonsillotomy, in cases of fibrous tonsils, and during acute inflammations of the tonsil. Severe hemorrhage in other cases is so rare that its occurrence need not be feared.

Hemorrhage after tonsillotomy may be either primary or secondary. Primary hemorrhage may be very profuse for a few seconds, but it usually ceases spontaneously and requires no especial treatment unless an artery of some magnitude has been injured. Spurting vessels may be seized with long-handled clamps, which may be allowed to remain *in situ* for a number of hours, when the artery will have become occluded. Parenchymatous hemorrhage may be profuse, but as a rule it ceases spontaneously. I am convinced that hemorrhage after tonsillotomy is often aggravated by persistent manipulation of the wound in distracted efforts to check the bleeding.

Secondary hemorrhage of a troublesome nature is more common. It occurs a few hours after



the operation and may be profuse and alarming. The exercise of common sense is especially urgent in these cases. The use of styptics is to be condemned, for none of them is potent enough to control a serious hemorrhage, and all of them irritate and inflame the structures with which they come in contact. Direct pressure upon the bleeding part, cording the extremities, the upright position, and rinsing the throat occasionally with hot water containing alcohol or alum, may be tried. Should the hemorrhage really threaten the patient's life, ligation of the bleeding point, or suture of the stump of the tonsil may be done. Or, as a last resort, ligation of the common carotid may be considered, although it is one of the rarest necessities, even in apparently desperate cases.

With the guillotine, we should remove as much as possible of the hypertrophied tonsil, notwithstanding the fact that ablation of a small section will often cause the remainder to shrink to normal proportions. In small and in unmanageable children a general anesthetic will be necessary. As in operations upon adenoids, I prefer chloroform for general anesthesia. Cocaine should not be used in operations upon adenoids; but in patients who are not very young, it may prove serviceable as a superficial anesthetic in tonsillotomy. I do not consider it a safe practice to inject that drug into the substance of the tonsil. In choosing chloroform for general anesthesia, I know that I am somewhat heterodox. It is a well-known fact that ether irritates the respiratory passages and excites an excessive secretion of mucus in the throat and bronchial tubes, especially in the class of cases which we are considering. It is always more difficult to anesthetize such patients, and a relatively larger portion of ether is required to produce the desired effect. This endangers the respiratory center to an appreciable degree. Chloroform does not irritate the air-passages, nor does it cause an excessive production of mucus in the throat and bronchial tubes. A small quantity only is required. A reckless anesthetizer may give an overdose of chloroform, but a properly-instructed and cautious one would not make that mistake. We are all stricken with horror by the reported sudden deaths from chloroform. If, however, those cases had been carefully observed, I am confident that danger signals would have been noted long before the heart was paralyzed by an overdose of the drug. I do not believe that death from chloroform occurs without warning. The results of hundreds of experiments upon animals made by competent men and a rather large personal clinical experience with chloroform alike force me to that conclusion. Chloroform is not as dangerous as it is reputed to be, and ether is less safe, especially when given to children suffering from diseases of the throat, than many of us are apt to assume.

Given a case of hypertrophied tonsils associated with pharyngeal adenoids, shall we operate upon both conditions at the same sitting, and if so, which shall we remove first? The reply to the

first question depends upon the individual case. In some instances it is proper to operate upon tonsils and adenoids at the same *séance*; but when the child is not strong and if the growths are large, it is wiser to divide the work between two sittings. Then, the tonsils may be removed first and the adenoids a few days later. Prolonged operations upon the throats of small children are not recommended, for there is danger of causing in them a serious degree of shock. Severe inflammatory complications in the pharynx, larynx, and even in the lungs may be excited by prolonged operations upon adenoids and tonsils. Fibrous tonsils may be extirpated with safety by means of the cold-wire snare. And reduction of tonsillar hypertrophy in "bleeders" may be accomplished by applications of the galvano-cautery.

Up to the present time, I have not encountered a patient on whom a tonsillotomy had been done, who was not benefited, in some measure, at least, by the operation. I have not seen a case in which the quality and the strength of the voice was not improved by removal of the obstructions in the fauces. The alleged evil effects of tonsillotomy upon the organs of generation have not come under my observation.

The post-operative treatment of tonsillotomy consists in keeping the wounds clean. An alterative astringent may be indicated as a local application whenever the process of healing shows a tendency to become sluggish. As a rule, the wounds heal rapidly after operations upon hypertrophied tonsils and pharyngeal adenoids; and cicatrization is complete within a fortnight.

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#### A REPORT OF SOME CASES OF ABDOMINAL SURGERY, WITH REMARKS ON THE DIAGNOSIS OF CARCINOMA OF THE CECUM AND THE SURGICAL TREATMENT OF CARCINOMA OF THE LIVER AND THE GALL-BLADDER.

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(Concluded from page 263.)

Kuester reports a case of resection of the liver and the gall-bladder which was unsuccessful, and this bad result he attributes entirely to the method which he used which was one advocated by Terrier. This consists of passing a large trochar through the parenchyma of the liver and through this thick elastic tubing was carried, and thus elastic ligatures were placed in the liver substance so as to control hemorrhage. The neoplasm was pulled outside the abdominal wound which was left open, but the tumor was not removed. Before doing this the cystic duct had been ligated and cut. The patient died from sepsis and this authority recommends therefore that in the future the tumor should be removed after the application of an elastic ligature.

The two following cases have been reported by

Czerny. The first was a woman thirty-three years old who three months previously had been suddenly attacked by a very severe pain in the abdomen which lasted three days and caused unconsciousness for a quarter of an hour. Four weeks before the operation was performed the patient was again attacked by the same piercing abdominal pains, more marked in the right and left hypochondrium, and these attacks of pain were repeated every day after this. All this time the patient was jaundiced.

A subcutaneous lipoma was found in the right lumbar region, and a resisting mass could also be detected under the edge of the liver at about the level of the tenth rib; this mass was somewhat convex and was directed downward; it was about 3 centimeters wide and was very sensitive to pressure, and a diagnosis of cholecystitis and cholelithiasis was made.

At the operation the lipoma was first removed and then the incision was carried to the median line just below the umbilicus. The gall-bladder was considerably enlarged and had contracted adhesions with the omentum, and after these had been broken down, its surface was found to be full of small nodules. After the gall-bladder had been opened a large number of calculi were removed. The gall-bladder was drawn forward, but was torn by the tension and as the thickness of the wall and the increase in size of the lymphatic glands seemed to indicate a malignant transformation of the organ, it was decided to perform cholecystectomy. The abdominal incision was increased in length and the border of the liver was turned upwards so that the hilus was exposed. The hepatic duct was then directly opened above its junction with the choledochus, and then was closed carefully as possible by sutures. The gall-bladder was then freed up to its insertion with the ductus choledochus and was then tied off with a thick ligature and removed.

At the point where the ligature was applied, the ductus choledochus was intimately united to a lymphatic gland the size of a hazelnut and the incision had been carried directly through it. Another enlarged lymphatic gland was found closely united to the duodenum but it had to be left. The hilus was then plugged with tampons and the abdominal wall was closed with continued silk sutures. The gall-bladder measured  $13\frac{1}{2}$  centimeters long and  $4\frac{1}{2}$  centimeters thick. The wall in certain places was extremely thick and presented a caseous degeneration; microscopical examination proved that the walls were infiltrated with carcinomatous tissue and the glands had also become involved.

The patient recovered slowly and when allowed to leave the hospital five weeks later she felt in excellent condition. Palpation of the abdomen could not detect any tumor, nor could the enlarged lymphatic gland which had been left behind be felt. The ultimate outcome of this case is unknown, but the author believes that if he had operated immediately after the first appearance of the attack of colic, the metastasis of the car-

cinoma would have been prevented, while as the case then stood the patient must sooner or later die from the progress of lymphatic metastasis.

The second case operated on by Czerny was a woman of sixty years of age, who for about a year had been apparently suffering from catarrh of the stomach, and who had also had severe pains in the epigastrium more especially in the right. At no time had the patient vomited, nor was there any rise in temperature. The liver dulness began at the seventh rib, and reached in the axillary line to the costal border, and in the middle line  $2\frac{1}{2}$  fingerbreadths above the umbilicus; it then projected sharply to the left parasternal line at the level of the seventh rib. Within the boundary of the liver dulness a rather sharp but smooth edge of the liver could be felt, and in intimate connection with it at the outer edge of the rectus a tumor the size of an egg could be detected. This tumor was solid in consistency and its surface was smooth, and it could be distinctly made out as being unconnected from the edge of the liver. When the patient would take a deep inspiration both tumor and liver would be pressed down. Pressure on the growth only produced a moderate amount of pain. The diagnosis of chronic cholecystitis, perhaps malignant disease of the gall-bladder, was made.

The abdominal cavity was opened by an oblique incision in the hypochondrium; the gall-bladder was found to be thickened and after an aspirating needle had been introduced, a seropurulent liquid was withdrawn. An incision was then made into the bladder, and a number of calculi were removed. While attempting to dislodge a stone which was contained in the cystic duct, the tough and thickened wall of the bladder was torn. In the region of the cystic duct there were numerous adhesions with the duodenum, and a nodule the size of a hazelnut was found which could not be peeled out. The cystic duct was tied off and severed in front of this nodule after the surface of the gall-bladder, which was in relation to the under aspect of the liver to which it was adherent to about the extent of a dollar, had been separated with a knife from the parenchyma of the liver. The parenchyma which was removed at this time was about a centimeter in thickness. The opening of the cut surface of the cystic duct was closed by two sutures.

Sutures were introduced into the liver substance in order to close the raw surface, but as they cut through, all attempt to closing off the liver was given up and the cavity and raw surfaces of the liver were packed with iodoform gauze. The patient recovered nicely from the operation and was discharged at the end of two months, but it was learned that death occurred a few days later. The length of the extirpated gall-bladder measured ten centimeters and in breadth it was  $5\frac{1}{2}$  centimeters. Its walls, especially near the fundus, had become greatly thickened, and were studded with nodules and were very tough; microscopical examination did not demonstrate



that this was clearly a case of carcinoma of the gall-bladder.

Heidenhain describes a case of carcinoma of the gall-bladder in a patient sixty-one years old, who had been suffering from cramp-like pains in the region of the stomach, and which shot up into the chest and became exceedingly severe in the back. By palpation the liver dulness was found to begin at the upper border of the fifth rib and extended as far as the mammillary line at the costal border. The lower pole of the gall-bladder, which was the size of a goose egg, was spherical, but one could detect a slight irregularity on its surface. Its outline could be made out fairly well. The movements of respiration imparted movements to both the liver and the tumor.

The abdomen was opened by longitudinal incision carried along the border of the rectus muscle and, after the adhesions with the omentum had been broken down, the enlarged gall-bladder along with the contiguous structures was drawn out through the incision. The fundus of the gall-bladder projected somewhat above the lower edge of the liver and calculi could be plainly felt in its cavity. As cholecystitis was supposed to be present, the bladder was opened for the purpose of removing the stones, but in doing this a necrotic growth the size of a walnut was found in the interior, so that the incision in the gall-bladder had to be closed with a continued catgut suture. The liver tissue which was lying in direct continuity with the gall-bladder was resected, because connective tissue changes had already taken place in it, and a wedge-shaped piece about 10 or 12 centimeters in size was removed by the thermocautery. At the point of section the liver appeared to be perfectly normal in color and consistency, and no secondary foci of disease were to be seen. The resection of the liver was accomplished without any hemorrhage, and only one small vessel had to be ligated.

The cystic duct was ligated and cut, and its end was closed by Lembert's sutures and a bit of the omentum was fastened over it. After this the adhesions with the parietal peritoneum and omentum were stitched together so that the abdominal cavity was in part walled off from the wound of the liver.

A calculus almost the size of a walnut was found lodged in the fundus of the gall-bladder, while a large number of smaller stones were found in the cavity of the organ. The carcinomatous growth had started from the mucosa of the fundus, and had from there extended to the liver. The patient was discharged in excellent condition at the end of October, there remaining only a small granulating wound. Two months later the patient was obliged to take to her bed, and examination showed nodular deposits of the growth in the liver.

Mr. Mayo Robson has four times operated for carcinoma of the gall-bladder, and secondary deposits of the growth in the liver. He did a cholecystectomy and resected the liver in these cases. A more detailed account of them will be found in

Mr. Robson's recent book upon Surgery of the Gall-Bladder.

Marchand performed cholecystectomy for carcinoma of the gall-bladder in a woman sixty-four years old, and Socin has reported the following case. A woman sixty-three years old presented a tumor situated below the right costal border which had been present for about eighteen months. An abdominal incision showed that the tumor was the gall-bladder which had become extensively adherent to the liver, stomach and transverse colon. A resection of the colon was performed and then the tumor could be separated from the stomach. A calculus was present in the cystic duct and was removed by a longitudinal incision, and the duct was then closed with sutures. The gall-bladder was then separated from the liver by breaking down the adhesions binding it to it; the ductus was then cut and immediately closed with sutures. End to end anastomosis of the colon was done, and the gall-bladder removed. The patient recovered.

Ullmann has reported the following interesting case. The patient, who was fifty-four years old, had been complaining for about two weeks of pain in the right hypochondrium which she attributed to a cold. Examination showed that this side of the abdomen contained a very hard and irregular mass which was movable and was displaced by the movements of respiration. Everywhere above the tumor dulness on percussion corresponded to the liver dulness which began at the seventh rib, while downwards and to the left the dulness finally changed to a tympanic resonance.

A diagnosis of carcinoma of the liver, or possibly a malignant growth of the omentum extending to the liver, was made. The abdomen was opened by an oblique incision carried over the mass; the growth proved to be a much enlarged gall-bladder. The walls of the organ were very rigid, but by palpation liquid and calculi could be felt in the cavity of the organ. At the point where the gall-bladder was in contact with the liver, the parenchyma of the latter organ had become thickened and hard, and had apparently become infiltrated by the neoplasm of the gall-bladder, especially in the neighborhood of the hepatic duct; no other secondary deposit could be found in the liver, and it was therefore decided to do a cholecystectomy and resection of the liver.

The cystic duct was first ligated and severed and then the hepatic duct was treated, and the diseased portion of liver together with the gall-bladder were removed. Resection of the liver was begun with the knife, but on account of the severe hemorrhage which arose the operator resorted to the Paquelin cautery. As this did not control the hemorrhage, an attempt was made to catch up the bleeding vessels with hemostatic forceps, but this was also found useless, and compression and sutures were also found of no avail. The hemorrhage was finally controlled by closing the liver vertically to the direction of the vessels and then compressing it. Two long myoma

needles were pushed through the folded liver and compression was produced by sterilized gauze.

In order to facilitate the execution of a hepato-duodenostomy the duodenum was sutured to the lower part of the wound and then the parietal peritoneum was stitched to the capsule of the liver, and tampons of iodoform gauze were packed in around the organ.

The gall-bladder when removed was found considerably enlarged and contained a large quantity of calculi; its walls revealed a typical carcinomatous infiltration. The carcinomatous nodule in the liver measured  $11\frac{1}{2}$  by 9 centimeters, the thickness of the portion removed being about 4 centimeters. The patient made such a good recovery that at the end of two months Ullmann contemplated performing hepato-duodenostomy, but he was obliged to give this up because a recurrence of the growth had taken place in the liver and the patient died six months after the operation had been performed.

Ziegler relates the case of a patient forty-seven years old who about three years before coming under observation had been suddenly attacked by cramps all over the body; these attacks of cramps occurred a few times and then did not reappear, and since this time menstruation had stopped. At no time was the patient jaundiced. About a month before seeing the patient she had discovered a hard point in the right upper region of the abdomen, which soon became quite painful. Examination showed that the liver was somewhat enlarged, and in direct connection with it a hard irregular tumor the size of a child's fist could be palpated and which was sensitive to pressure. During the movements of respiration the mass moved up and down with the liver and appeared to be intimately united to it. The diagnosis lay between cholelithiasis with an inflammation of the surrounding organs, or malignant neoplasm of the gall-bladder.

The liver was exposed by an oblique incision carried along the costal border. The gall-bladder was found transformed into a hard irregular tumor which had become closely united to the liver. A nodule the size of a pigeon's egg was found to the left of the gall-bladder which was very white and brilliant as it projected from the parenchyma of the liver in the under aspect of the organ. Other than this there was nothing abnormal in the liver and resection of this apparent malignant neoplasm of the organ was decided on. The cystic duct was ligated and cut, and then a wedge-shaped piece was resected with the thermo-cautery from the liver. A second and smaller nodule was also resected in the same manner. Hemorrhage was considerable and the wounds in the liver were plugged with iodoform gauze. Then the edges of the wounds were brought over the gauze by means of sutures. The gauze was brought out at the upper angle of the abdominal wound and then the remainder of the latter was closed. Microscopical examination of the liver growth showed it to be carcinoma. The gall-bladder contained four large stones, and its walls had undergone a carcinomatous transformation. The patient made

a good recovery, but died about five months afterwards from an extensive recurrence of the neoplasm in the liver, cystic duct and neighboring lymphatic glands.

The number of cases published where resection of the liver for carcinoma, and where the gall-bladder has been found normal, are quite few indeed, and Bruns was probably the first who operated for carcinoma of the liver, although he only removed a small section of parenchyma for the purpose of diagnosis.

A very excellent result was obtained by Schrader, inasmuch as his patient was perfectly free from any recurrence of carcinoma of the liver seven years after resection of the organ had been performed. The patient was a woman about thirty years old. Examination revealed a very sensitive swelling protruding somewhat towards the lower part and situated in the right border of the liver, at a point normally occupied by the gall-bladder, and a diagnosis of gall-stones was made.

The abdomen was opened, and at the edge of the liver directly over the gall-bladder a carcinomatous nodule was discovered, being about 4 centimeters wide and  $3\frac{1}{2}$  centimeters thick, and caused the border of the liver to appear somewhat protruding. The mass in the parenchyma appeared to be quite limited from the surrounding liver tissue. The gall-bladder which was lying behind it was apparently normal. The growth was removed by means of a large wedge-shaped incision, and the wound was cauterized by means of a Paquelin. The *albuginea* of the liver was carefully united with the edges of the abdominal wound so that the wound in the liver became extra peritoneal. The remainder of the abdominal incision was closed, and the patient made an excellent recovery. The amount of secretion was limited and after about ten weeks the wound was almost completely covered by skin. This operation was performed in 1890 and the woman was found to be perfectly well in 1897.

A very similar case is reported by Luecke. The patient was a woman thirty-one years of age who for two years before the operation had suffered from her stomach, and of late had observed a swelling in the region of the stomach which soon began to give rise to considerable pain. On examination the growth appeared to be about the size of an apple and commenced two finger-breadths below the xiphoid process. Its lower border was sharply defined and it appeared to be globular; no pedicle could be felt; the growth was very movable and gave rise to dulness on percussion. A diagnosis of probable tumor of the liver was made.

When the abdomen was opened the left lobe of the liver was found to be about the size of a man's fist, and was connected with the remainder of the organ by a rather thick pedicle; this lobe was filled with a number of large carcinomatous nodules. The tumor had in part become united to the omentum, in which two enlarged lymphatic glands were discovered. The other abdominal organs appeared to be normal, and it was apparent



that the carcinoma was limited to the left lobe of the liver. It was decided to remove this lobe and consequently, it was stitched to the abdominal incision and then the growth was surrounded by strips of iodoform gauze so as to isolate it from the peritoneum.

Severe hemorrhage resulting from laceration of the liver parenchyma was controlled by passing a rubber drainage tube through and tying off the mass, and this tube was later on replaced by tightly tied ligatures. A week after the operation the pedicle was severed with the thermocautery and at the same time the surface of the liver which was involved was carefully cauterized. The tumor proved to be a carcinoma of the liver. The patient was discharged, cured and two years later she was still quite well and without any recurrence.

Jacobs reports the following case. A woman of fifty years of age had been suffering for several years with pains in the right side caused by the presence of a tumor, which on palpation was about the size of an orange and evidently located in the abdominal parietes. The pedicle appeared to be in some way connected with the peritoneum. An incision was made on the right in a line of the greatest length of the tumor, and it was found that the growth had become intimately connected with the surrounding structures. After breaking down adhesions, it was found that the neoplasm was attached to the liver at its lowest part. The growth was removed with the thermo-cautery, a drainage tube was inserted, and the abdominal incision closed. A small fistula remained at the site of the drainage tube for some time, and which gave issue to bile. Six months later a recurrence took place. Histologically the growth proved to be a carcinoma of the liver.

Segond has recorded the case of a large tumor filling the entire pelvis and it varied in consistency in different parts; it extended under the right costal border. The patient was thirty-four years old, and had suffered from severe hemorrhages from the uterus, so that a diagnosis of a fibroid which had in part degenerated had been made. This diagnosis appeared quite justifiable, as no connection with any other abdominal viscera could be ascertained either by examination or from the patient's history. At the operation, it was found that the entire growth was situated on the free border of the liver just above the gall-bladder, and was connected with the liver by a very thin pedicle about five cm. broad; it was nowhere adherent, and consequently could easily be removed. In other respects both the liver and gall-bladder appeared normal, likewise the other abdominal viscera. The patient did not rally and died three days after the operation. The neoplasm proved to be a carcinoma, the lower part of which was softened and degenerated, while the upper part was of a more scirrhous nature.

Roux successfully removed a pedunculated tumor of the liver from a woman aged fifty-four years; the position of the tumor corresponded quite exactly to the so-called processus linguiformis. The tumor communicated on one side

with the gall-bladder, and on the other side had made an opening the size of a twenty-five-cent piece in the transverse colon which was situated behind the tumor. This part of the colon was resected along with the growth, and the opening into the intestine was closed by three layers of sutures. At the lower pole of the gall-bladder, where the tumor was adherent, a piece was also removed, and the opening in the gall-bladder was also closed by three layers of sutures, so that a normal sized organ remained. The gall-bladder as well as the growth contained some calculi. The pedicle was resected from the liver, and the rather extensive hemorrhage was controlled first with clamps and then with a double catgut suture.

Keen, Lins, Israel, Von Bardeleben, Müller, Tricomi, Groube, Schmidt, and many other operators have all recorded cases similar to those quoted above, but it would make this paper far too long if I were to give them here.

Of the difficulties with which the surgeon has to contend in operating on the liver, I would place first and foremost, hemorrhage from the hepatic parenchyma. The question of a proper incision in order to freely expose the tumor is also an important one for consideration, but I believe that in the vast majority of cases one carried along the border of the right rectus muscle will be quite sufficient for extirpation of the gall-bladder alone. An incision carried towards the median line will sometimes facilitate the operation, and in a few cases it may be necessary to resort to Czerny's incision which is made by making an incision in the linear alba and one perpendicular to this just below the umbilicus.

Where resection of the liver is to be done, a longitudinal incision will sometimes be sufficient, but when this is not the case another incision should be made parallel to the costal border, the length of it varying according to circumstances. On account of the complicated condition to which they give rise, I think that the incisions recommended by Micheli and Lannelongue are not to be particularly commended.

As to the control of hemorrhage from the hepatic parenchyma, I think that in many cases it may be avoided if the part is extirpated with the thermocautery with or without the previous application of ligatures in the liver substance. If there is much oozing the stump may be sutured to the abdominal incision and the wound packed with gauze. Other methods for stopping hemorrhage have also been recommended, such as packing the wound with iodoform gauze, or the use of Esmarch's rubber tube. Suture ligatures have also been favorably employed; they are inserted by blunt round needles in the form of chain sutures and by firm and gradual tension they completely close bleeding vessels. This method has of late been highly recommended by Auvray who experimented with this method on human livers removed as soon as possible after death. Langenbuch advised temporary ligation of the portal vein with or without a temporary ligature of the superior and inferior mesenteric artery, but as we

have said in the vast majority of cases resection with the thermocautery will be found sufficient.

The question of the extra- or intraperitoneal treatment of the stump has given rise to much discussion, but personally we would recommend the latter. A comparatively limited number of cases of resection of the liver leaves this question, however, still in the state of study, and it will be only after many more cases have been recorded that we can draw a just conclusion as to this matter.

871 Beacon Street.  
**THE SUSTAINING TREATMENT OF TYPHOID FEVER, WITH SPECIAL REFERENCE TO THE USE OF HYPNOTICS.**

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An orator may change the meaning of his speech by emphasis, and, if we dwell too much on one part of a plan of treatment and too little on another part, we convey a false impression. I think this has been done generally in the textbooks. The importance of securing brain-rest in typhoid has not been sufficiently emphasized by writers and, therefore, it is much neglected by practitioners. It is the object of this brief paper to call attention to this omission and also to suggest a systematic plan of procedure.

The treatment of typhoid may be classified under four heads. Under the first are the various plans for the cure of the disease—the curative treatment. Under the second, the plan of treatment which carries the patient along until the forces of the body destroy the cause of the fever, or the poison proves too much for the patient and death results—the sustaining treatment. Under the third head is considered the treatment of the complications. Under the fourth head are the plans for the prevention of the spread of the disease—the prophylactic treatment.

The sustaining treatment, the only form to be considered in this sketch, is sometimes known as the expectant treatment, but I object to the term expectant, because it implies that we wait with folded hands for Nature to do all the work. While we must avoid meddlesome interference, the campaign against typhoid is an active one from the start. To obtain the best results, it must be carefully systematized. An excellent working plan is as follows: (1) Supply the body with material for giving heat, nourishment and energy; (2) put the body in such position that it will use these materials to the best advantage; (3) see that the waste materials are thrown off from the body. The whole of the sustaining treatment may be summed up broadly as follows: Look out for the input, the output, and save the waste. The process has been compared to a steam engine. We must supply it with oxygen, water and coal. We must regulate its workings so that it will not go too fast or too slow. We must see that the bear-

ings are well oiled and dispose of the ashes. To some extent this comparison is applicable, but the laws applying to dead matter will not apply to living organisms.

*The input includes food, water, air and sunlight.*

*Food.*—Milk and eggs constitute the mainstay for the typhoid-fever patient. They are complete foods, containing in themselves all that is necessary to support the patient for an indefinite period. A patient will take the whites of six or eight eggs in milk in the twenty-four hours and during the same time he should not take less than one quart of milk. When the milk is not well borne by the stomach we may give it by enema. First, gently wash out the rectum by throwing therein a warm normal salt-solution through a double current catheter. After this a rectal enema of cream, eggs, salt and water may be used. I have used the following formula for many years with great satisfaction: B Well-beaten egg, one; beef peptonoids, one dram; cream, four drams; salt, five or ten grains; water sufficient to make two and a half ounces. This enema should be gently thrown into the rectum as high up as possible. There is the greatest difference in the result when one is gentle and passes it in slowly and when it is carelessly done. One nurse will use the enema without trouble, and another, on the same case, will report that the patient cannot retain it. This nutrient enema given every four hours will in itself sustain a patient for a long time. Theoretically, we should use the foods that are digested in the stomach where there is no ulceration. Practically, we can use any fluid food that will not cause fermentation or irritate the gut.

A common error in the administration of milk is to allow the patient to drink it as he would water. A result of the ingestion of a large quantity of milk taken at one time is the formation of a clot so large that it cannot be readily acted upon by the intestinal juices. A large indigestible bolus is the result. A good way to prevent such an occurrence is to feed the patient a tablespoonful at a time rather than to allow him to drink from a vessel or through a tube. The amount of food and the intervals must be a matter of study in the individual case. The rule is to give as much food as the patient can digest. The danger of giving too much is greater, particularly at the end of the second week, than too little, but we must not forget that patients are sometimes starved to death. Professor Armour had a homely, but convincing way of pointing out the danger of overfeeding. "If," he said, "the patient puts one egg into his stomach, and he can digest but one, he is the better by one egg; but if he takes two eggs and can digest but one, neither is digested and he has two rotten eggs in his stomach."

*Water.*—This is more important to the patient than food. He may get along with an insufficient amount of food, but he must have more



water than when in health. A gallon of water in twenty-four hours, when the fever is high, is not a large allowance. If the patient cannot take this by the mouth, we must give him normal salt solution by the rectum. I am not sure that the good results obtained by the baths are not due, to some extent, to the amount of water absorbed. The amount of water taken by the patient should be measured, and if it is enough the hard, cracked tongue of the patient will rarely be seen.

*Air.*—This is the third substance mentioned under the heading input. Its importance has not been properly recognized. We know what it will do in tuberculosis and typhus fever and I do not think any one will oppose the open-air treatment in these diseases. I would like to move all severe cases of typhoid into the open air, with only enough shelter to screen them from the direct rays of the sun, the dew, and the severe winds. There is no danger of a patient with a high temperature taking cold. Of course, the body, under such circumstances, should be kept warm by hot-water bags and light, warm clothing. I am sure that such a plan, carried out with judgment, would lower the mortality a great deal.

*Sunlight.*—We do not know why sunlight is so necessary to man, but its banishment from the sick chamber, without good reason, is, to say the least, depressing. In this disease we need all the cheer we can obtain.

*The Saving of Waste.*—We must save the patient all unnecessary wear and tear. We must give him as little work to do as possible; rest for the body and rest for the mind. We must keep him quiet, making him use the bedpan and teaching him to avoid all sudden and jerky movements of the body. It is not desirable for him to lie constantly on the back, and he must cautiously turn on his side from time to time with the aid of the nurse. It is usual to secure rest for the body, but rest for the brain is often forgotten. In the condition known as *coma vigil*, the patient lies with eyes half open and muttering in a low voice. What is the brain doing during this time? If we may judge from the incoherent mutterings, it is flying from subject to subject and probably does an enormous amount of work in a short time. The patient is attempting to climb impossible heights and is falling into bottomless depths. Days and weeks are compressed into hours. It would take a pen more facile than that of Dickens to follow the mental wanderings of such a patient. The great writer attempted this in *Martin Chuzzlewit* and, although he gives us a wonderful picture, it falls far short of reality.

The man who relies on the report of a nurse to find out how much the patient has slept will often be deceived. If the patient does not call for some service, between the times for the administration of food or medicine, she dozes un- easily in her chair and reports the next morning that the patient was quiet; and yet a short per-

iod of such quietness will wear the patient out. He is not sleeping. His brain, instead of getting rest, is in a state of activity and unless the doctor or Nature changes the condition of affairs, the patient will die. We think much of the food the patient is taking; we think a great deal of the waste from high temperature; some of us are solicitous to give enough water, but how many men have the period of true sleep measured every twenty-four hours? Man bears the loss of food much better than the loss of sleep. I do not know of any attempt to find out how much rest is necessary.

This paper is a plea for the measurement of the period of true sleep in the twenty-four hours. If the patient will not sleep naturally he must be made to sleep by artificial means. The bath will produce sleep, but it does not last long. It is valuable in initiating the effect of a hypnotic which would be ineffectual without its aid. The hypnotic which has given me the best results is sulphonal. I believe that it is usually given in too small doses. One should commence with fifteen grains and if this is not effective, increase the dose to a dram in some cases. It usually takes about five hours to act thoroughly. Trional in ten-grain doses will do good work. Its effect is somewhat quicker than that of sulphonal; about three hours is the average time. Chloral is very useful. This drug went out of general use, because it occasioned several deaths, but the late Dr. Squibb told me that he felt quite sure the ill results were due to an impure article. From fifteen to forty grains will put the patient to sleep. These doses may seem large, but the need may be urgent. The patient should be watched after the administration of large doses of a hypnotic and, if the heart gets very weak, stimulants must be used. If the stimulant is given too soon, the effect of the hypnotic will be lost. This is a common mistake. If the time for the administration of stimulants, in the routine treatment, comes at the time sleep is looked for, it must be deferred. Of course if the arterial tension is very low, we may induce sleep by the use of a stimulant. The use of hypnotics is a matter of considerable skill. I do not believe that the bromides in small single doses are of any service. When I was substituting, many years ago, at the Brooklyn Hospital, it was the custom to give twenty or thirty grains of bromide of potassium as a sleeping-draught. The solution was kept in a gallon bottle. Being a little skeptical as to the efficacy of this medicine in the way it was used, I poured it out, without saying anything to the nurses, and substituted enough common salt to give the mixture a strong saline taste. I watched the night nurse's reports for several weeks after this and, comparing it with the reports of the weeks previous to the change, found that the salt solution was quite as efficacious as the bromide.

Morphine is a valuable hypnotic, but it locks up the secretions of the liver and at times nauseates the patient. Again, if the dose is too small,

it stimulates and excites the patient, instead of calming him. If it is given by the needle, it makes trouble for the doctor, for a nurse should not be allowed to give a hypodermic injection as a routine of practice or at any time except in a case of emergency.

There is no question that careful management of the fever will aid materially in the saving of waste. A fever too long continued, if it is sufficiently high, will kill the patient, but I am inclined to believe, on clinical grounds, that we have been too meddlesome in the past. I have given up the use of all the coal-tar antipyretics. They depress too much. The safest way of reducing the temperature is the abstraction of heat by immersing the patient in a bath, which may be made as cold as it is consistent with comfort. The cold baths of Brand are brutal and, personally, I think I would rather be permitted to die than go through what I have seen patients suffer in their use. Again it is strange to learn how many nurses can tell you of patients that have died in, or immediately after, the baths, particularly in the case of children. The ice-cap and the abdominal coil are useful at times. The interesting experiment of Pasteur, who found he had to reduce the temperature of a fowl before he could inoculate it with anthrax, is something to set us thinking. I have no doubt that with increased knowledge, we shall be better able to judge when to interfere with temperature and when to let it alone. I confess that I do not feel much alarmed if the temperature goes up to 106° or 107° F., provided it does not stay there too long. Of course, the bath does a great deal in addition to the reduction of temperature, but I think we can get its best effects without torturing the patient.

After the second week, alcohol is of the greatest service. It must be given in the proper amount and this can be determined only by experiment. If the restlessness increases after its administration, if the odor is detected in the breath and if the pulse becomes accelerated, the amount must be decreased. If, on the other hand, there is improvement of these symptoms, it may be pushed until the condition of the patient is satisfactory and all this irrespective of the amount, which may vary from a few ounces to a few pints in the twenty-four hours.

When we can no longer use strychnine with good effect; when we wish a greater stimulating effect than can be obtained from alcohol, there is nothing that will give as good results as the intravenous injection of about a quart of the normal salt solution. I have seen the pulse drop from 135 to 98 in three hours after a transfusion of forty ounces. The patient, who before the injection had been rolling about in an uneasy way in the bed, settled down into a quiet sleep. Whether the dilution of the poison had anything to do with this result I do not know, but the effect was decided and very satisfactory.

*The Output or Waste Material.*—Waste material is thrown off by the bowels, the kidneys, the skin,

and the lungs. We do not know how far one organ can act for another. The bowels may help the kidneys, but each organ must do a certain amount of work and all should be watched. It seems to me that the cases with two or three movements of the bowels each day do the best, and if a patient does not have at least one free movement in the twenty-four hours, laxatives or enemas should be used. An occasional dose of calomel is of great service. I have given up trying to secure aseptic stools and I am not sure that the food would be well digested if such a thing could be done. At the same time, we must not leave a lot of poisonous fluid material in a gut that is sluggish in its movement. Few do not recognize the futility of trying to sweep out the bacillus of Eberth from the intestines, for it is in the wall of the gut, in the blood, in the lymph-structures, in the spleen, in the bone marrow, etc. If there are more than two copious movements, a slight astringent—strong tea does very well—will usually afford relief. It is good practice to use a stimulant after the movements.

In regard to the work of the kidneys, it helps us to know the amount of urine passed. The trouble of collecting the urine is considerable and for this reason it is not done oftener. We must also know the character of the stools.

At least half the cases of typhoid at one time or another have albumin in their urine. This usually means that the blood-pressure is too low or that the intestine needs cleaning out. An increase of stimulant or an efficient dose of calomel will usually cause the albumin to disappear. If it persists under such conditions, we have reason to be apprehensive of organic changes in the renal epithelium.

If the skin is inactive, the use of a hot pack will be of service. In the first week it will sometimes bring out the eruption. I have seen brought out in this way a characteristic typhoid eruption that was as profuse as those we sometimes see in children. We do not see as much of the sudaminal eruption as formerly, because of the frequent bathing of the skin. If the patient takes enough water, the amount of urine will usually be sufficient.

The importance of the systematic investigation of the input, the output and the saving of waste cannot be overestimated. We are dealing with patients whose reflexes are often weakened to such an extent that they are far more helpless than a baby. In the first stages of the disease they are indifferent and apathetic; later on they become dull. At first they know, but do not care; then they do not know except under unusual conditions; at a later stage they do not know under any conditions. Such patients will remain with enormously dilated bladders without making any sign.

To sum up the sustaining treatment of typhoid fever:

(1) *No practitioner has done his duty who does not know at the end of each twenty-four hours that the patient has had enough food, water and fresh air.*



(2) *No practitioner has done his duty who has allowed the patient to wear himself out by continued high temperature or by lack of sleep. The amount of sleep in the twenty-four hours should be recorded.*

(3) *No practitioner has done his duty who has not examined the urine frequently, and who has not posted himself daily as to the condition of the urine, the movements of the bowels and the condition of the skin.*

## CLINICAL MEMORANDA.

### COMPOUND DISLOCATION OF THE KNEE.

By WALTER LATHROP, M.D.,  
OF HAZLETON, PA.;

SUPERINTENDENT AND SURGEON-IN-CHIEF, STATE HOSPITAL, HAZLETON.

THIS injury is so infrequent that the following case is deemed worthy of reporting. In looking up literature on the subject I find the cases of compound dislocation very rare; in fact, text-books dismiss the subject with few words, although the American Text-book of Surgery states that "the dislocation is frequently compound." The severity of my case, however, could not bring it under the head of frequent. Of course, a forward or backward dislocation of the tibia, accompanied by a wound, no matter how small, would be compound; such may be comparatively frequent.

B. D., thirty years of age, while at work in the mines January 19th, saw a car off the track and went to assist those engaged in replacing it. To use his own words, "The end car was off the track, and I was by the side of car next to end, when the engine started the train, and the car was lifted up and fell over on me." It was some time before he was extracted. He was placed on train and brought to hospital as soon as possible.

Examination showed a bad fracture of the left femur at the condyles, while the right femur was protruding at the *under side of knee*, completely denuded of tissue, the condyles, and articular surfaces being stripped clean. Popliteal artery was ruptured. The wound of exit was not large, but the bone had been forced through by the enormous pressure of the loaded car, which pinned him against the props of the mine. Shock was severe, but after some time reaction was established; he was then anesthetized and I amputated the limb just above the seat of injury. He reacted well and is now doing nicely.

One year ago, I had a case of compound dislocation of the right humerus, the head being driven through the pectoral muscles, close to the clavicle. This was reduced and attempts were made to save the joint, but these resulted in an excision. The patient recovered and has a very useful arm.

**Grip in Copenhagen.**—There were 1,700 cases of influenza reported last week. Several deaths occurred from the disease. In general, however, the epidemic in Europe, is similar to that in this country, in that the disease is rather mild.

### NASAL OBSTRUCTION; MOUTH BREATHING; CATARRH; DILATORS.

By NORBURNE B. JENKINS, M.D.,  
OF CHICAGO.

THE most common troubles which reduce the size of the nasal passages are cartilaginous growths, bony growths, deflections, deviation and deformity of the bones and cartilage forming the nasal cavities, hypertrophy and edema of the lining membrane of the nose, polypi, enlarged turbinated bodies, discharges from inflammation and disease of the nasal mucus membrane, stenosis, arrested development, atrophy, discharge from dead tissue, discharge from disease of the air-cavities or sinuses communicating with the nose.

The chief causes in the production and development of obstruction are as follows: Not using the nose in breathing, general hypertrophy, constitutional taint of disease, injuries from external violence, infection, irritation by such foreign bodies as dust, etc.

The upper air-passages warm, moisten and regulate, and free from foreign particles the air passing to the lungs. Any long-continued interference with this important function is followed by disease. If the volume, pressure or presence of air in the nose is not normal, growths, deflection and other diseases are invited and the nose may become closed. Arrested development, atrophy, hypertrophy, growths, polypi, stenosis, deflection and deformity, can and often do result simply from not using the nose in breathing.

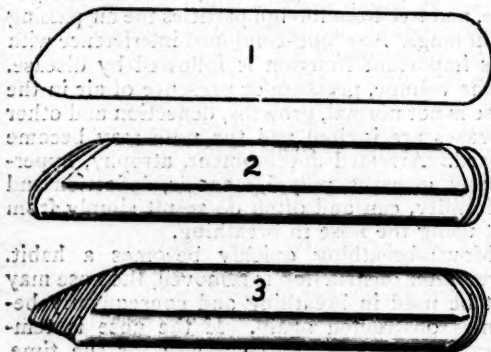
Mouth-breathing quickly becomes a habit. Even after obstruction is removed, the nose may not be used in breathing and consequently becomes obstructed again. If the nose is temporarily stopped up, the mouth for the time, must be used in breathing. In these cases mouth-breathing may continue from habit, even after the nose is open.

The surgeon who is familiar with the anatomy and pathology of these parts finds little difficulty in relieving most obstructions, yet treatment of sinus diseases and necrosis often requires great patience and skill. The laity wisely call these "incurable catarrh." If there is long-standing, yellowish discharge, dead bone or disease of one or more of the numerous air-cavities or sinuses may be suspected. The discharge may come from one or both nostrils.

Diagnosis and treatment of disease in the sinus of the upper jaw-bone is comparatively simple. In the small accessory sinuses it is often difficult or almost impossible to locate the source of discharge, and, notwithstanding simple methods given in text-books for diagnosing and treating, the operator may have the chagrin of finding, after weeks and months, that the discharge is not controlled, nor its source even located. These troubles are usually curable, therefore the more exasperating. The reader will find in the text-books information more definite and detailed.

Many non-discharging obstructions may be treated with constant pressure. This is probably best made with folded writing-paper dilators, in size about one-half-inch by two or three inches. The illustrations are somewhat enlarged. At first the dilators should be the thickness of three or four sheets of paper. In many cases of occlusion and stenosis a dilator cut from best visiting-card board is easily introduced and useful. As the nose opens, thicker and later, wedge-shaped ones are used, thus conforming to the shape of the normal nose. The entire length of the dilator should rest on the floor of the nose, and it should be sufficiently far inside the nostril not to show.

Spray the nose with a two-per-cent. solution of cocaine, anoint the dilator with iodoform ointment or petrolatum and introduce with forceps. Remove after a day or two and replace with a new one. No harm has resulted from wearing a dilator a week without changing, but this is not recommended. Hasten slowly, use



Nasal Dilators.

thin ones first, and gradually and painlessly pass to thick ones. In occlusion and stenosis, a passage for the dilator must sometimes be made with a thin saw, and in such a case one size or another should always be in the nose until completely healed.

In case of trouble in introducing, the dilator may be made like a scabbard and put in place with any long, thin, springy instrument. The dilators are not often indicated in people past middle age. If the nose is sufficiently open, or has been made so by knife or dilator, and the patient breathes through the mouth, a bridle, described in the *Medical Record*, September 10th, 1898, may benefit, if worn during sleep. The bridle is a reminder to the patient and is not to lock the jaws. In many mouth-breathers, the muscles which hold the jaws closed may become atonic and may need the assistance of the bridle in overcoming the habit.

Diseases of the respiratory tract can not be successfully treated if there is persistent mouth-breathing. In some diseases of the ear the habit

interferes with recovery. In treating disease of the air-passages too much dependence is placed on atomizers and insufflators and not enough on physical hygiene. Many stubborn cases of hypertrophic rhinitis, middle-ear catarrh, tonsillitis, "bad colds," and arrested development, may yield to hygienic measures without other treatment.

## MEDICAL PROGRESS.

**Every-day Headaches.**—These may be considered, writes HUGH T. PATRICK (*Medicine*, Jan., 1901), due to infection and toxemia from fever, Bright's disease, constipation, etc., to neurasthenia, to migraine, to eye-strain, or to anemia. The obscure ones are the head pains of neurasthenia and migraine. The former is not a severe pain, but an intense distress or discomfort, a sense of pressure, or constriction, or expansion, of heaviness, lightness, fullness, or emptiness, or of a foreign body, solid or liquid, loose or fixed, within the cranium. Frequently there is a feeling of hindrance to mental effort. A pain located in points, lines, squares, circles, etc., is neurasthenic. Not infrequently there is a dull ache behind or over the eyes, and a sensation of bulging or pressure in the orbits not relieved by glasses. The headache may disappear during social intercourse or absorbing business, to reappear at the next opportunity for undisturbed self-contemplation. A headache which continues for months is pretty sure to be due to neurasthenia or to grave organic disease. The only cure is that for neurasthenia, but palliative treatment by strychnine, or 20- to 40-grain doses of bromide may be necessary. Migraine appears in distinct attacks separated by entirely free intervals, but during the attack the pain is constant and severe and usually prostrates the patient. It is deep-seated, although the scalp may be tender. It is usually hereditary and begins before the twentieth year. The attacks last from six to thirty-six hours and occur at first two or three times a year; later as often as twice a week. Nausea or vomiting is rather frequent; there is often a definite prodrome, and during the attack sleep is impossible. An attack may be precipitated by pain, loss of sleep, mental strain, etc. Women not infrequently lose the affliction after the menopause and men after the age of sixty. The author's treatment consists in the administration of fluid extract of cannabis indica, three drops after each meal, increased rapidly to the physiological limit and kept there. If this fails, try bromide or nitroglycerin, or a mixture of sodium salicylate, sodium bromide and aconitine.

**Retropharyngeal Abscess.**—Though rare, writes IRVING M. SNOW (*Arch. of Pediatrics*, Jan., 1901), this is one of the grave affections of infancy, and is commonly treated as pharyngitis or croup. The baby will attempt to nurse and



will quickly drop the nipple and cry; or it will refuse all nourishment. If the abscess is in the upper pharynx the cry is nasal, the breathing snoring and snuffling, and the child sleeps with the mouth open. If at the level of epiglottis or larynx, there is hoarseness, stertorous breathing, and attacks of choking or cyanosis, all symptoms are aggravated in the recumbent position. Usually the neck is swollen, the cervical or submaxillary lymph-nodes enlarged, with fever and constitutional disturbance. With such symptoms the throat should be palpated, and no time should be lost in evacuating the abscess.

#### Bacteriology of Gastro-enteritis in Infants.

The importance of bacterial studies in disorders of the gastro-intestinal canal in infants is so universally recognized that this was a question of the day at the recent Congress in Paris. Among those who participated in the discussions none has contributed more to the subject than ESCHERICH of Graz. Summarizing his results of extended studies in this direction in a short paper (*Arch. de Méd. des Enfants*, Dec., 1900) Escherich reaches the following conclusions. (1) The use of Weigert's fibrin stain and fuchsin with feces gives useful results, enabling one to differentiate the bacteria found in the stools of breast-fed children, and the colon bacillus which decolorizes by Gram. The inoculation of ordinary alkaline media (agar and gelatin in plates) succeeds only to a limited extent in demonstrating the bacteria observed in cover-slip preparations. By employing certain acid media it has been observed that the normal intestinal flora is still greater than had hitherto been suspected. The use of the Grüber-Widal reaction enables the differentiation of closely-allied forms of the colon group found in the alimentary canal. (2) The normal intestinal flora is the expression of the conditions of the normal function of the intestine. (3) The bacterial flora, under normal conditions is independent, in a large measure, of the variety and number of bacteria introduced with the food. At all events, small disturbances in the chemistry of the intestine, of secretion and absorption, of the general health and powers of resistance, affect the bacterial flora very markedly. (4) For many reasons it may be assumed that the introduction and multiplication of any micro-organism not common to the normal flora may induce morbid changes. This may occur through unusual ways of decomposition resulting in the formation of poisonous substances. (5) At the present time there exists no satisfactory classification of the gastro-enterides of infants. From a bacterial standpoint three types of infection are recognized: (a) Intoxications through ectogenous decomposition; (b) infection of the chyme; (c) infection of the intestine. (6) The number and kind of bacteria present are important factors in the pathogenesis of these infections. (7) The belief that the death-rate from gastro-enterides progressively diminishes in infancy as age advances is not in accordance with the author's personal and very extensive experience.

**Post-Operative Ventral Hernia.**—B. B. EADES (*Annals of Surgery*, Jan., 1901) says that at least fifteen per cent. of all laparotomies are productive of hernia after a lapse of five years. Many surgeons fail to see these results in their own cases, because so many patients seek the aid of other operators for these unfortunate outcomes. Hitherto only the physiology of the parietes, but now the anatomy also has necessarily to be considered, because it alone will aid in the reconstruction of the walls so as to prevent hernia immediately and remotely. He recommends that the incision through the skin and fascia should be at an angle to the direction of the muscle fibers and nerves, as great as possible. Only innervated muscle will functionate and prevent visceral protrusion, hence the greatest possible respect must be had for the nerve and the muscle and sharp division of either or both avoided to the last moment. The general rules for the parietal cut he formulates as follows: (1) Length depends upon the thickness of the superficial fascia, always enough to give wide access to the muscles; (2) relatively greater length when separation, not division, of the muscle fiber is to be done; (3) always proportional to the suspected pathological conditions; (4) with view to rapidity, dexterity and precision of deep field work; (5) long incisions in the skin and fascia do not predispose to hernia; (6) lessen the mortality by increasing space for protecting the surrounding viscera; (7) decrease shock by shortening the time. For appendicitis he transposes the intramuscular incision of McBurney downward, so that it is centered on a line joining the anterior superior iliac spines and from one to one and a half inches internal to the right. This almost invariably brings into view the iliohypogastric and ilio-inguinal nerves, so that they may be protected and spared, and also opens the parietes just below the pouch of the cecum.

**Hemorrhoids.**—The treatment of these very common and vexatious conditions, says QUENU (*Gazette de Gynecol.*, Jan. 1, 1901), depends largely upon the causes and degree of the disease. Dilatation of the anus tends to restore the venous circulation and to obviate some of the complications which are associated with really descended piles. For the actual destruction of these venous tumors one may employ any of the well-known radical procedures, clamp and cautery, ligature, galvanism, bistoury or scissors. For a slower removal of them various means are employed at the periphery and at the center of the tumor, such as painting the surface, cauterizing, electrolysis, and interstitial injections. Normal living and regulation of defecation are important. Daily baths or at least local washing of the anorectal skin and mucosa are splendid preventives of infection and abscess. In the presence of the actual piles cold or very hot (40° to 45° C.) applications and irrigations, also hot sitting-baths with or without astringents added, like sulphate of zinc, alum, tannin, etc., suppositories of these or of subnitrate of bismuth, or galvano-electric stimulation or cauterization are very good. Inflammation

demands cold, heat, poultices, exhibition of calomel, ointment with morphine or cocaine and, finally, the knife, if these means fail. Since mere dilatation does not prevent recurrences and may promote prolapse, to-day radical cure is preferred. Hartmann in the absence of inflammation removes them through a flap-formation, uniting the edges with fine silk afterward, in the presence of inflammation he omits the suture, packs the rectum with gauze to appose the cut surfaces and finds cure present in about seven days as a rule. Quénu and Hartmann have modified the Whitehead operation as follows: The anus is circumscribed with an incision at the mucocutaneous juncture for half of its extent, the mucosa with the piles adherent is dissected free and everted upon the finger; the piles are now ablated, the bleeding is checked, and then packing of the rectum to hold the flap in place finishes the procedure, after the other half has been similarly treated. The typical Whitehead operation is necessary when the mucosa is much altered. All operations must be preceded by moderate dilatation of the anus.

**Abdominal Hysterectomy.**—G. NANU (*La Gynecol.*, Dec. 15, 1900) gives the following leading points for this operation: A 45° Trendelenburg position from beginning to end, until the parietal suture begins; a large retractor held at the lower limit of the wound by an assistant standing between the feet of the patient, who shifts it from side to side, always over the point of operation; systematic abandoning of the hemostatic forceps on large vessels, ligating at once instead; ligation of the hypogastric arteries. The foregoing points assist in rapidity and the following in asepsis: Abandonment of all chemical disinfectants, using only heat for sterilizing; careful walling-off of the peritoneum; reconstruction of the peritoneal layer on the pelvic floor; all ligatures of catgut; all sutures of the same substance, except at the skin, where silkworm gut is used. As to the comparison between this and the vaginal route, he thinks the abdominal the more truly surgical, because it is rapid, free and complete in its work.

**Removal of the Seminal Vesicles.**—H. H. YOUNG (*Archiv. f. klin. Chirurgie*, B. 62, H. 3) states that of all the avenues of approach to these organs usually adopted the three mentioned as best are the perineal, inguinal and sacral. The sacral route is the most advantageous to the surgeon for view, but is difficult and prolongs the operation considerably. A new route is suggested by the author, the suprapubic, and has the following technic: A median incision is made from umbilicus to symphysis. If this does not give sufficient exposure there may be made an adjunct incision vertical to it either through the recti abdominis muscles just above the symphysis or better through the linea semilunaris just above the umbilicus. The second-named site for this additional cut is by far the better, because it does not injure muscle fibers, gives no paralysis and much less tendency to hernia. The deep field is extra-peritoneal if possible. The bladder is freed from its bed and drawn upward and forward over the

symphysis and held. With it comes the prostate and the seminal vesicles. These are then dissected free of their attachments and with them the ampulla and course of the vasa deferentia. If castration has been done, the whole vas and vesicle of that side can be removed. The advantages of this method are completeness, comparative rapidity, directness and the safety of any ordinary laparotomy.

## THERAPEUTIC HINTS.

**Hot Air Treatment.**—The apparatus used at the Royal Victoria Hospital, write C. F. MARTIN and B. D. GILLIES (*Montreal Medical Journal*, Dec., 1900) consists of a copper cylinder large enough to admit an extremity, the pelvis, or the whole trunk, and with a thermometer and valves to allow the air to circulate. The part to be treated is wrapped in flannel, is placed on an asbestos cushion in the cylinder, and rubber sheeting is wrapped about it. The temperature is gradually raised from 180° to 260° F., then rapidly to 280° or 300° F. or more. The patient drinks freely of water. In the cases of gonorrheal arthritis the pain was relieved, the mobility increased, the effusion absorbed, and walking rendered more quickly possible than by any other means tried. This was the result in other painful effusions and acute or subacute joint affections, while in arthritis deformans and chronic rheumatism the effects were less lasting. Besides joint affections, cases of peripheral neuritis, local neuralgias, and sciatica (29 cases) were relieved with astonishing rapidity.

**Fatty Heart.**—In ordinary cases, writes W. H. BROADBENT, the food should be liberal and varied, precautions being taken against inordinate or injudicious eating. It is best to have someone who understands the likes and dislikes of the patient determine what dishes and what quantity will be good, acting under the physician's advice. Proper regulation of the bowels is of the utmost importance. The quantity of feces which may unconsciously accumulate in the bowels of old people in spite of a daily slight evacuation is astonishing. Such may induce complete prostration, which may last for months, or result in fatal syncope; or there may be cerebral symptoms, and complete loss of memory, with childishness and torpor. To regulate the bowels mild aloetic aperients are best, with pilhydrarg. and colocynth occasionally if there is arterial tension. Any tendency to flatulent distension of the stomach must be counteracted by careful dieting, and by alkalies and carminatives. Bitter tonics, massage and gentle exercise are often of great service. Extremes of heat and cold should be avoided, and a dry healthy country spot selected for residence.—*Heart Disease.*



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SATURDAY, FEBRUARY 23, 1901.

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## INHUMANITY AND THE HUMANE ASSOCIATION.

NOWHERE is one so forcibly reminded of Landseer's famous picture of "Dignity and Impudence" as when the human traits that the picture caricatures are portrayed in some calm, large-minded scientific man, and a cocky, self-sufficient gentleman with a chip on his shoulder.

From advance sheets of the *Journal of the American Medical Association*, we read with interest and amusement a discussion in which Dr. W. W. Keen calmly lays down the law to the president of the American Humane Association in this gentleman's own terms. The trouble is *apropos* of the Bill for the Regulation of Vivisection, and the text is Dr. Keen's published statement to Senator Gallagher that in a pamphlet issued by this Association the experiments quoted were "many of them so vague and indefinite that he could not look them up," and that some of those he did find were "garbled and inaccurate."

We grieve to say that the worthy president of what was supposed to be a respectable society feels it his duty to "probe and investigate this charge to the fullest extent," and incidentally hints that Dr. Keen's remarks are "not quite in accordance with the highest ideals of truth," and concludes his remarks by intimating that there is need of

enlightenment "if the medical profession of this country is ignorant of what has been done by men without pity and without conscience." To all of which Dr. Keen, from whom he has pompously demanded proof, furnishes what he asks.

The Humane Association had caused to be distributed from house to house in Washington, prior to the reading of the Bill, a pamphlet in which were reported a number of experiments, fourteen of which were drawn from newspaper stories. Dr. Keen points out that five of these cannot be consulted for lack of date, and adds that in no case would he be willing to admit a newspaper paragraph as a sufficient authority for a grave charge against an individual or the profession. He then quotes six other "vague and indefinite" references, not to newspapers, in which dates are omitted or incorrectly given, so that there is no possibility of verifying them.

As to Dr. Keen's defence of his words that "some of the statements were garbled and inaccurate," which so rankle the humane gentlemen, he gives a series of cases in the pamphlet in which it is reported that doses of thyroid gland were administered to insane patients—and the patient died. No mention is made of the actual cause of death which were given in every case in the official report from which these "garbled" sentences are taken, neither is there any mention of the cases that were greatly improved. In the same way, Dr. Keen supplies the omissions which his opponent sarcastically demands by stating that in five experiments of lumbar puncture made by Dr. Wentworth, the pamphlet simply records the fact that a lumbar puncture was made and the patient died a certain number of days afterward. The omissions are Dr. Wentworth's express statement that "no reaction on the part of the patient attended the operations," and that autopsy showed the cause of death to be "inflammation of the brain," "galloping consumption," "double pneumonia," etc.

In reporting on Sanarelli's experiments in the inoculation of yellow fever, the account is "garbled" by inserting in the symptoms the word "final," i. e., "jaundice, delirium and the final collapse," which does not occur in the original. The last three words are italicized in the Humane Association's report, leaving the impression that the patients died, whereas Sanarelli states that *not one of them died*. Notwithstanding Sanarelli's statement, which the compiler of the report must have read, he quotes from the *Boston Transcript*, "It is understood that some, if not all of the persons

inoculated died of the disease," and the words "scientific assassination," "death" and "murder" are freely quoted.

The "garbling" of a translation of Schreiber's inoculation of a boy with tuberculin, which in reality was for the sake of early diagnosis, is shameful, it being insinuated that the physician did it simply to see whether the boy could be inoculated with the disease. The physician's final report is: "I could discover no other alterations in the otherwise apparently healthy boy." It is rendered "I cannot yet say whether the boy will be consumptive in consequence of my treatment."

The confident tone of outraged humanity with which Dr. Keen was called upon to deny the profession's responsibility, if he dared, will, we hope, assume something like apology when the gentleman finds out what manner of man he has been calling out to battle. For it is not a fight over calling names, but the same fight for humanity against a sentimentality and scandalous misrepresentation that vaccination, anesthesia, antitoxin and every great discovery in medicine have had to make.

#### MALARIAL PROPHYLAXIS IN NEW YORK.

WE reviewed in these columns in a recent issue, January 12th, the interesting chapter of the evolution of the theory that the mosquito carries malaria. This subject has been brought so much to the notice of the profession during this last year or two that now a headline reference to it is apt to be greeted by a yawn. Outside the tropics medical men are prone to think that it is of passing, even surpassing, interest because of the original wondrous intuition of the theory and the ingenious demonstration of it from so many sources, but practical importance it can have none except in distinctly malarial countries. It is forgotten, for instance, that there is and has always been a distinct mortality from malaria in and around New York City. This has decreased very much in recent years, but has not disappeared. One reason for the decrease has been the evolution of exacter diagnosis. This factor will undoubtedly still further lessen the number of malaria cases in the city during the next few years. No diagnosis of malaria should be made unless the parasites have actually been seen in the patient's blood.

The second factor in the decrease of New York's malaria is the gradual obliteration of suitable breeding-grounds for the mosquito. In this line there remain opportunities for the

further reduction of malarial mortality and morbidity in the neighborhood of the city. At the last meeting of the American Medical Association two observers recorded the finding of the *Anopheles* mosquito in our Northern States during the winter. In Boston during December and January, in Philadelphia during November and February, specimens of the malaria-bearing mosquito were found. The insects were observed in barns and outhouses, never far from some abundant water-supply and usually in the neighborhood of some animal, a dog or a horse or cow. In Italy attention has been called to the fact that mosquitoes hibernate. Only the impregnated females survive the winter it is said.

At the recent meeting of the Section on Medicine of the New York Academy of Medicine Dr. W. N. Berkeley called attention to two interesting sets of facts. First, the conveyance of malaria from person to person in New York and, second, the regulations that would greatly facilitate the ultimate extermination of the disease. The *Anopheles* mosquito Dr. Berkeley has found in most of New York's suburbs. Visitors even only for a day or two to these suburbs, who happen to be stung by the insects, not infrequently contract the disease and it has been possible to trace the exact length of the incubation period of malaria by knowing the date of the suburban visit.

So long as the present system of extending the streets of New York continues we cannot hope for absolute freedom from malaria. Streets are raised to grade by the city and owners are left to fill in their property at their convenience usually years afterward. This leaves stagnant ponds of water that make ideally favorable breeding-places for the *Anopheles*. Until these low-lying vacant lots and all other standing puddles of water can be filled up and drained, it is almost hopeless to expect a reduction in the number of mosquitoes. Where the mosquitoes are, malaria will be distributed, if a single case of the disease finds its way to the neighborhood.

In the country places around New York City much can be done by at once protecting all malaria patients from being stung by mosquitoes. *Anopheles* to convey malaria must be freshly reinfected every spring. In the spring especially relapses of old malaria occur. From these relapsing cases the mosquitoes get their supply of infective material. If malaria patients are protected from mosquitoes, by no means an impossible precaution, as has been shown in



Italy where the insect pests are much more abundant than in this country, there will not be any distribution of the disease beyond its original focus. There is absolutely no other intermediary for the conveyance of malaria from man to man except the *Anopheles* mosquito.

If, in addition to this, all standing water is either drained off or kept covered during the spring by a thick layer of crude petroleum, then the opportunities for the spread of malaria are minimized and cases of the disease must become infrequent. If these two measures, the shutting in of malaria patients and the drainage of stagnant water were instituted by legal regulation, just as is the quarantine of other contagious diseases and the abatement of nuisances, we would soon hear the last of malaria around New York. As it is, the public should be educated up to our present knowledge of the status of malaria as a mosquito disease. A set of instructions printed with the authority of the health boards of our Northern cities and distributed among dwellers in suburbs where malaria still occurs, would undoubtedly lead to a better enforcement of the simple precautions necessary to prevent the spread of the disease. For us even more than tropical countries the mosquito-theory of malaria is of practical importance. To neglect its obvious lessons is to miss valuable opportunities for the decrease of human suffering.

#### DISINFECTION OF THE HANDS.

Of late there has been an unusual degree of interest in the study of different methods of disinfection of the hands. The importance of such disinfection is now thoroughly recognized, and laboratory and other means of determining the best methods of disinfection have been greatly multiplied since the days when Lord Lister introduced antiseptic surgery. There has been a tendency to insist more and more upon the importance of mechanical disinfection of the hands, as compared with the chemical disinfection which was formerly considered most important. Schleich of Berlin has been particularly impressed with the importance of such mechanical disinfection and he has recorded some very satisfactory results.

Among several careful experimental studies which have been recently undertaken to try to solve this important question, that of Krönig and Blumberg (*Beiträge zur Händedesinfektion*, Leipzig, Georgi, 1900), deserves careful reading. These

writers have carried out an extensive series of experiments in which they have inoculated over eight hundred mice, besides making numerous culture tests. Because of the dangers of infection with the anthrax bacillus, which is so resistant to ordinary means of sterilization, they used the skin of cadavers for experimental purposes, rubbing the bacilli into the skin, allowing it to dry for a considerable length of time and then carrying out the various methods of disinfection. After purely mechanical disinfection of the skin by means of soap and water applied with a brush and marble-dust, as recommended by Schleich, they cut out bits of skin by means of sterilized scissors and forceps and inserted these bits into subcutaneous pockets in the skin of mice. By this method of disinfection the skin was so thoroughly freed of germs that only a few of the animals died of infection. However, the method was by no means perfect. Cultures on agar plates also showed colonies of anthrax in a number of cases. They next tried the use of tincture of soap and alcohol, as first recommended by Reinicke, a method which has been widely used by German surgeons and is particularly favored by Mikulicz. This may be considered the next step toward chemical disinfection. The results were very much the same as with the soap, water, brush and marble-dust method, experiments both by inoculation of mice and cultural experiments showing that we can only partially free the skin of germs by mechanical means even if combined with alcohol.

As previous investigations had shown that these methods were not effectual, Krönig and Blumberg did not carry out an extensive series of experiments with this method. Further experiments were carried out, using mechanical disinfection in combination with chemical disinfection by a mixture of permanganate of potassium with common salt, thus setting free chlorine, which acts as a powerful disinfectant in the nascent state. The results by this method were decidedly more satisfactory, and the writers conclude that the combination of chemical disinfection with mechanical disinfection is decidedly to be preferred, though they believe that the thorough mechanical disinfection of recent times is a decided advance.

Although it can thus be shown experimentally that disinfection of the hands is possible, there can be no question that in some cases any of the ordinary methods which have been used are not effectual, either because not carefully carried out or from the condition of the hands of the surgeon.

at the time. There is always the possibility that in certain cases, through hurry or neglect, the ordinary methods will not prove absolutely certain. These experiments and others only show that in order to be sure that we are not carrying infection into a wound we must cover the hands with some impermeable material. Whether this can be best accomplished by the use of rubber gloves, which are now most extensively used, by the use of leather gloves permeated with some substance preventing skin bacteria from passing through, as recommended by Wölfler of Prag, or by covering the hands with chirol or some other form of shellac, remains to be shown by further trial. All of these methods blunt the touch and hinder skilful manipulation in some degree, but the assurance of perfect asepsis makes it well worth while to put up with some disadvantages.

## ECHOES AND NEWS.

### NEW YORK.

**Appointment of Dr. Marston.**—Dr. Daniel W. Marston has been appointed Visiting Surgeon to the Randall's Island Hospitals, by the Department of Public Charities.

**Gift to Yale Medical College.**—One hundred thousand dollars was recently given to Yale University to construct a building for the medical school. The donor's name was not made public.

**Influenza Epidemic.**—The reports from the Marine Hospital Service indicate that influenza has been epidemic over the entire United States. The Western States were apparently invaded at about the same time as those of the East. The disease first made its appearance in most States in December, has been mild in character, for the most part, and has declined somewhat under the influence of the cold weather.

**Diamonds for a Diploma.**—In the exchange column of an evening paper there appeared, a few days ago, the advertisement of one who was willing to exchange diamonds for a medical diploma from a well-known college. The only stipulation was that the original owner must be deceased. It would be interesting to know how many were offered, and whether he gave up his precious stones for a sheepskin prepared especially for him by some smarter swindler.

**Anti-Christian Science Bill.**—The Assembly Public Health Committee will report for amendment and recommitment Assemblyman Bell's Anti-Christian Science Bill this week. The bill will be amended so as to affect only faith curists, and make all persons who pretend to be healers and cure the sick and injured pass an examination before the State Board of Regents, showing their

competency in caring for the sick, and their knowledge of disease, by requiring practical diagnosis.

**Lectures on Protozoa.**—In the lectures on Protozoa to be given by Dr. Gary N. Calkins, that to be delivered on March 1st will be of special interest to physicians. In it the more common disease-producing parasites are to be considered. Gregarines and Diseases of the Earth Worm; Coccidia and Liver Diseases of the Rabbit; Myxosporidia and Trout Epidemics; the Relations of Mosquitoes to Malaria, and Remedies are the subtitles to be discussed by the lecturer. The lecture will be held at 5 p. m. in Schermerhorn Hall, Columbia University.

**Mothers' and Babies' Hospital.**—At a meeting of directors and friends of the Mothers' and Babies' Hospital, Lexington Avenue and Fifty-second Street, on Thursday, it will be decided whether or not that institution is to be continued. It has been supported for eighteen years upon voluntary contributions, requiring yearly a guarantee fund of \$10,000 for its maintenance. This, the governing board, it is said, has had some difficulty in securing for several years past, but it is understood that the guarantee has been raised for this year, and that means have been provided for the institution's yearly expenses in the future.

**Academy of Medicine.**—A meeting of the Section on Laryngology and Rhinology will be held Wednesday evening, February 27th. The following is the program: (1) Exhibition of Specimens and New Instruments. (2) Presentation of Cases. (3) Paper: "A Remarkable Case of Glosso-Pharyngo-Labial Paralysis," by Wolff Freudenthal, M.D. (4) Paper: "A Combined Intra- and Extra-Nasal Operation for the Correction of a Congenital Concave Vertical and Lateral Deformity of the Nose; with Report of a Case," by B. S. Booth, M.D.

The Section on Obstetrics and Gynecology will meet Thursday evening, February 28th. After the scientific session the election of officers for the year will be held.

### PHILADELPHIA.

**Neurological Society.**—Officers for the ensuing year are: President, Dr. James Tyson; Vice-Presidents, Drs. C. S. Potts and F. X. Dercum; Secretary, Dr. A. A. Eshner; Treasurer, Dr. G. Hinsdale.

**Army Commissions for Pennsylvania Physicians.**—The following appointments to the regular army have been made: Dr. R. H. Zanner, of Norristown, Surgeon with rank of Major; Dr. J. S. Kennedy, of Chambersburg, and Drs. I. E. Bennett, H. H. Kiersted, and F. S. Dale, of Philadelphia, Assistant Surgeons.

**Children's Hospital of Germantown.**—The medical staff of this institution will in the future be composed entirely of homeopaths. The Board of Managers placed the names of several homeopaths on the list of visiting physicians. The



regular members thereupon resigned and their places were filled by the appointment of homeopaths.

**Brains Bequeathed for Scientific Study.**—The recent appeal of Dr. Spitzka of New York recalls the fact that some twelve years ago a small number of eminent Philadelphia medical men made an agreement to bequeath their brains to their survivors for scientific study. Among these were the late Drs. Pepper, Leidy, Allen and Wormley. The brains of at least two of this number are now in the Wistar Museum.

**Pennsylvania Hospital for the Insane.**—Dr. A. R. Moulton reports a case of rupture of the rectum with hernia of the intestine. The patient was a man of thirty-four years who had several years ago manually produced a rectal prolapse. In November, 1900, the rectum ruptured and two feet of small intestine and mesentery protruded. Shock was profound, death following in thirty-six hours.

A stated meeting of this Society will be held on Monday, February 25, 1901. Dr. Wm. H. Teller and Dr. F. X. Dercum will exhibit "A Case of Astereognosis," and Dr. George L. Walton and Dr. Walter E. Paul of Boston, will, by invitation, read a paper entitled "Astereognosis: with Illustrative Cases." At the close of the meeting a reception will be tendered Dr. Walton and Dr. Paul at the University Club. Members and others are cordially invited.

**Dr. Cabot in Philadelphia.**—Dr. Richard C. Cabot of Boston visited this city last week and addressed the Stillé and University Medical societies at the University of Pennsylvania on Thursday and Friday evenings. Dr. Cabot's subject at the latter meeting was the percentage of failures in diagnosing valvular lesions of the heart as shown by clinical diagnoses and the results of autopsies. The subject was discussed by Drs. Musser, Tyson, Hare, Stengel, Edsall and others.

**International Congress of Nurses.**—Miss Maud Baufeld, of the Polyclinic Hospital, who has labored very earnestly for the organization of nurses, is to be the Secretary of the Congress which meets at Buffalo during the Exposition. The speakers at the meeting will include, besides the representatives of various American societies, Mrs. Strong of the Royal Infirmary, Glasgow; Mrs. Huxly, of Dublin; Miss Florence Nightingale and Mrs. Bedford Fenwick of London.

**Hasty Embalming.**—The Coroner's inquest upon the body of a man found dead in the street February 15 developed the fact that a full autopsy by the coroner's physician was impossible because the body had been embalmed before the physician reached the place. This is the third case within two weeks in which the investigation of the coroner has been complicated by too hasty embalming. A bill to prevent the embalming of bodies by undertakers before they have been authorized by the proper parties is now before the legislature.

**Treatment of Tuberculous Glands of Neck with Minimal Scarring.**—Dr. G. Betton Massey uses a method which instead of the unsightly scars left by cutting operations leaves only points of scar tissue. A small opening is made in the skin over the affected gland and the tissues slightly cauterized with an electrode to keep the opening patulous. At intervals of a few days a gold electrode fully amalgamated with mercury is introduced and a current of two to ten milliamperes is passed for ten minutes. It is claimed that the tubercle bacilli are destroyed by the liberation of nascent oxychloride of mercury. Two cases of cure are reported. The sinus allows drainage of the waste products and afterward closes with but a point of scar tissue.

**Diagnosis of Pancreatic Disease.**—At the Pathological Society February 14th Dr. D. L. Edsall spoke of the diagnosis of pancreatic disease by the estimation of the urinary sulphates and of the fecal fat. Two cases were cited as illustrations. In one, a man of thirty-six years, there were gastric symptoms and jaundice together with other symptoms suggesting pancreatic disease. An estimation of the urinary sulphate showed the ethereal to be less than half the usual amount, the ratio between ethereal and preformed being 1 to 29 and 1 to 20 on different days instead of 1 to 10, the normal. Autopsy showed carcinoma of the head of the pancreas. Case second, a woman of forty-eight years showed an increase of the ethereal sulphates the ratio being 1 to 7.4 and 1 to 8.5. The woman recovered having apparently had an attack of catarrhal jaundice. Dr. Edsall believes that the study of the ethereal sulphates is of value in cases of suspected pancreatic disease, a positive result being relatively of more value than a negative one. In regard to the fecal fat there is a rather prevalent idea that fat in the stools means pancreatic disease. This is an erroneous belief, as there is fat in normal stools. The importance of icterus in connection with fat in the stools was emphasized. In the second case referred to there was a large amount of fat in the stools. The conclusion reached is that fat in the stools is not of much value in proving the existence of pancreatic disease. Indicanuria is not considered of diagnostic value in any disease.

#### CHICAGO.

**Will of Albert A. Munger.**—According to the will of the late Mr. Munger, the following institutions are beneficiaries. Fifty thousand dollars will be divided among them: Woman's and Children's Hospital, the Chicago Foundlings' Home, the Chicago Nursery and Half Orphan Asylum, and the Home for Incurables.

**Colony for Epileptics.**—The scheme of a State colony for epileptics at Grand de Tour in Ogle County has been put into a bill and introduced in the House by Representative David Hunter. An appropriation of \$350,000 to start it is asked. The restrictions thrown around admission to

the proposed Colony are much the same as the restrictions on admission to the Insane Hospital. Board, tuition and treatment are to be given colonists by the State, and also their clothing, if they are poor.

**Three Cases of Osseous Stylohyoid Arch.**—These cases were reported at a recent meeting of the Chicago Pathological Society by Dr. T. R. Crowder. Complete osseous stylohyoid arch is a comparatively rare anomaly. It is to be considered as a developmental reversion to a lower type and not as an ossification of the stylohyoid ligament once developed in the normal way. In the cases presented the four original skeletal elements of the second branchial arch (hyoid bars or Reichert's cartilages) are represented by separate articulated bones. At the same meeting Dr. F. G. Harris reported a case of blastomycetic dermatitis; while Dr. A. C. Gillam detailed a case of angiosclerotic ulcer of the vagina and cervix uteri.

**Fourth of July Tetanus in Chicago.**—Dr. H. Gideon Wells read a paper with this title. Following July 4, 1900, there occurred 27 cases of tetanus due to wounds from explosives. The preceding year there were 17 from the same cause. An investigation made to ascertain the source of the infecting organisms demonstrated their absence in the wads of 250 blank cartridges of various makes, but in one of six samples of street dirt from various parts of Chicago they were found. Investigation showed that in nearly every case the physician in charge had neglected to remove the wads and other foreign particles from the tissues, and no consideration whatever had been given to the possibilities of the tetanus infection. Considering the frequency of tetanus in blank-cartridge wounds in this city, and the very positive value of tetanus antitoxin as a prophylactic, the writer urges the injection of five c.c. of antitoxin in all such cases when first seen, in addition to thorough cleansing and drainage, usually under anesthesia.

**Education of Deaf and Deaf-Mutes by Means of Aural Exercises.**—Dr. E. F. Snyder read a paper on this subject before the Chicago Medical Society. It has long been known that deaf-mutes retain certain remnants of hearing. Bezold has shown that if these remnants of hearing lie within that part of the scale, the number of vibrations of which corresponds to the number of vibrations of the human voice, i. e., from  $b^1$  to  $g^2$ , the hearing of these deafs can be wonderfully stimulated and augmented by aural exercises. These exercises cannot change pathologic processes, but they do stimulate and augment such powers as exist. They combat the apathy into which such patients fall; they bring new brain centers into play by overcoming states of aphasia into the ear until mental acoustic images are given chiefly by means of the human voice; objects are shown children and their names shouted into the ear until mental acoustic images are aroused. If they are old enough, letters are

shown and their names shouted into the ear until they can be repeated. The vowels are taken and repeated until they can be correctly understood. The child, almost at once, makes efforts to speak. After the vowels, consonants are taken, and very soon simple words and simple combinations of words. If the child possesses the requisite range of hearing, improvement continues until conversation can be understood. A certain percentage, by no means insignificant, of the inmates of deaf and dumb asylums are adapted for this training. If the requisite range of hearing is not present, or if the children are simple-minded or idiotic, the exercises are wasted labor. These exercises have been officially investigated and adopted in Bavaria, Baden, and other German States, and are also employed in many institutions in Austria.

**State Sanatorium.**—A bill for the establishment of a sanatorium in Illinois was introduced by Representative Warren a few days ago. This bill was framed by Dr. John A. Robison of this city in accordance with the suggestions of the Legislative Committee of the Illinois State Medical Society, of which he is a member. It also has the endorsement of the Illinois Society for the Prevention of Consumption, the State Board of Health, and the medical profession generally. The bill asks for an appropriation of \$200,000 for the purchase of a site, the erection of the building, and the maintenance of the institution for one year. It provides that the sanatorium shall be in charge of three trustees and under the superintendency of a practising physician, who shall be a graduate of some school recognized by the State Board of Health. The resident physicians are to be selected on competitive examination, conducted by the State Board of Health, and the cost of treatment of indigent patients is to be defrayed by the counties in which they reside. Special safeguards are contained in the bill to prevent the encroachment of politics into the management of the institution. Dr. Robison said it is a shame that Illinois has no place for the treatment of persons afflicted with tuberculosis, when it has been conclusively demonstrated that the disease is curable. The bill has been framed with the idea of giving a close supervision to the daily life of patients and according them hygienic treatment which will enable them to resist the disease. Dr. George W. Webster said it is necessary that a sanatorium should be established, not only for the curing of consumptives, but also for the protection of all who are not afflicted with the disease. Dr. J. B. Murphy said the idea is a most excellent one. Such a sanatorium will fill a long-felt need of the State and community in general. If it is run for the purpose of curing tuberculosis and not as an antemortem resting-place, it will be a monument to the wisdom of the State Legislature for all time. The greatest blot on the reputation of Chicago as a progressive city is the fact that if a poor person is afflicted with consumption he must go to the poorhouse for treatment. A



sanatorium for consumptives can produce more beneficial results for the human race than any other form of public institution for the care of the sick.

#### GENERAL.

**Western Ophthalmologic and Oto-Laryngologic Association.**—This society will meet in its next annual session in Cincinnati, Ohio, April 11th and 12th. An interesting program has been arranged and the medical profession are cordially invited to attend the sessions. Dr. C. R. Holmes of Cincinnati is Chairman of the Local Committee of Arrangements. Dr. M. A. Goldstein of St. Louis is the President, and Dr. W. L. Ballenger of Chicago is the Secretary.

**Obituary.**—Dr. William Rice, Mayor of Trenton in 1879 and 1880, died suddenly in that city last week. He was sixty-three years of age and one of the oldest practising physicians in the city.

Dr. J. H. Linsley, Director of the State Laboratory of Hygiene and State Bacteriology, died at Burlington, Vt., last Sunday. He was born in Windsor, Vt., in 1859. He was appointed in 1887 an instructor of clinical microscopy in the New York Post-Graduate Medical School and Hospital. Later he was made director of the Laboratories of Histology, Pathology and Bacteriology, also pathologist to the New York Post-Graduate Hospital and the New York Infant Asylum. In addition he did some pathological work for the St. Luke's and the Presbyterian hospitals. He went to Germany as representative of the New York Post-Graduate Medical School. He gave the first address on lymph treatment for tuberculosis in this city.

### CORRESPONDENCE.

#### OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, Feb. 9, 1901.

THE REPORT OF THE SOUTH AFRICAN HOSPITALS COMMISSION—THE CHARGES OF MR. BURDETT-COUTTS NOT SUSTAINED—EXONERATION OF THE ARMY SURGEONS—BLAME FIXED ON THE RIGHT SHOULDERS OF THE WAR OFFICE—NEED OF REFORM—AN EFFETE SYSTEM—INADEQUACY OF THE ARMY MEDICAL STAFF—IGNORING BY THE WAR OFFICE THE DEMAND FOR MORE AMBULANCES—APPLIANCES OUT OF DATE—TOO MUCH MILITARISM IN THE HOSPITALS—COMPLAINTS AGAINST ORDERLIES—THE APPOINTMENT OF SPECIAL SANITARY OFFICERS RECOMMENDED—THE CONDITIONS OF AFFAIRS AT BLOEMFONTEIN—TYPHOID PATIENTS ATTENDING ON THEMSELVES—OUTBREAK OF SMALLPOX AT GLASGOW.

THE Blue-book containing the report of the Royal Commission appointed to inquire into the medical service in the South African War has been issued. The Commission first met on July 23th. They held seven sittings in England and then went to South Africa where they took evidence and inspected the hospitals, traveling over the whole of the lines of communication from

Cape Town to Bloemfontein and thence to Pretoria. They returned to England at the end of October. The main results of the inquiry are the conclusions that the medical and hospital arrangements have not broken down; that there has been nothing of the nature of a scandal with regard to the care of the sick and wounded and no general and widespread neglect of patients or indifference to their sufferings. All the witnesses of experience in other wars were unanimous that, taking it all in all, in no campaign have the sick and wounded been so well looked after as in this. But the Royal Army Medical Corps was deficient, defective in organization and training and imperfectly equipped with appliances. As I have repeatedly said in my previous letters, the army surgeons were in no way to blame. It is the old story over again, deplorable want of foresight and common sense on the part of the War Office and Herculean efforts on the part of its servants. The muddling of the War Office has not been confined to purely military matters. As I have before pointed out the Medical Corps is not master in its own house; it has no transport service of its own and its demand for supplies can be refused or granted by non-medical officers.

The fact is the Medical Corps has always been snubbed and treated with as much contempt as possible by the military authorities, simply because it is composed of men who practise their profession as a means of living and are not members of an aristocracy, or more often plutocracy, who enter the army because it is fashionable and a good club. As a natural result the knowledge of warfare as a science possessed by these men is of the slightest. Hence the lamentable blunders of this campaign. This is not perceived at all, or only dimly so, by the average Englishman who has to pay for their blunders so dearly, both in taxes and in the blood of his kin. He absolutely fails to grasp the elementary fact that war is a matter of science and not of snobbery. Is it any wonder that men who bungle in military matters, about which they are supposed to know something, should bungle in the control of medical matters of which they know nothing? As a result of this inquiry we shall, of course, get reforms. In fact everybody is crying for the reform of the War Office, the deficiencies of which are at last dawning on the complacent conservatism of the average Englishman. But I am quite certain they will not be nearly as radical as they should be. We have a reactionary Tory Government in office which from its very nature is in sympathy with obsolete and effete prejudices. However high may be the value of the scientific work done in Great Britain and however devoted the workers, the position of science in the eyes of the mass of the people and for the upper classes is a poor one. Snobbery and the gross materialism of wealth are the only ideals of these people. When this is understood you have the ultimate cause of the difficulties in South Africa, military and medical.

As to the general inadequacy of the medical

staff of the Army the Commissioners say that the military and medical authorities never anticipated that this war would have been of the magnitude which it has attained. The Medical Corps was totally insufficient and it was not so constituted as to be capable of enlargement nor to have its deficiencies made good. This was not the fault of the Medical Director-General and his staff. For a considerable time before the outbreak they urged upon the military authorities the necessity for an increase of the Corps, but without avail. The regulation ambulances are condemned by the Commissioners. They say: "We found them very heavy, requiring a large number of mules to draw them, and very jolty and uncomfortable. The type used appears not to have been materially changed or improved for many years." More conservatism! A defect in the equipment of the fixed general hospitals was the lack of transport. Transport was ordinarily supplied by requisition from the Army Service Corps, which led to delay. A fact observed by the Commission was the existence on the part of many military officers of a feeling of distrust of the skill and experience of the Medical Corps as compared with civil doctors. To a great extent the Commission believe this mistrust to be ill-founded. That it is not wholly unfounded is due to the difficulties under which the Corps has labored. In time of peace the Corps has been undermanned and the officers have not had sufficient holidays nor leave nor opportunities of studying and keeping abreast with recent advances in the practice of medicine and surgery.

The Commissioners recommend (1) that the staff of the Medical Corps be permanently enlarged and due provision made for its further necessary and speedy enlargement in times of great wars; (2) that inducements be offered to ensure a continuous supply of men of good professional attainment; (3) that the men who have joined be kept as a body thoroughly acquainted with the general progress in professional subjects and at a high professional standard of efficiency. The means by which these results may be best attained require careful expert investigation and consideration and the Commissioners recommend that they be considered by a departmental committee. In the hospitals the Commissioners found too much militarism—a tendency of some of the officers and still more of the non-commissioned officers and men of the Medical Corps to treat the hospitals too much as barracks and to regard those admitted as soldiers and not as patients. The nurses employed in this war have shown great devotion and the soldiers have much appreciated their services which they prefer to those of orderlies. At the outbreak of war there was available only staff and equipment for two army corps (80,000 men), and even these were equipped with difficulty. The deficiency was made up partly by private hospitals and the wholesale use of civil surgeons and untrained orderlies. But it was never wholly made up. The Army Corps unit allowance of field-hospitals was

reduced from 9 to 6. Thus the field hospitals in South Africa were 10 short of the proper number and this defect was never made good and caused a strain throughout the whole campaign. At the time of greatest pressure, the end of March, the total force engaged was about 207,000 men. There were then 800 medical officers, including civil surgeons, 6,000 hospital subordinates and 800 nurses. But it does not follow that this medical aid was distributed in proportion to the needs of particular localities. The movement of troops was often sudden and unexpected. Transport was generally difficult and had in many cases to be used exclusively for the fighting line. Taking their work as a whole, the Commissioners consider that the Principal Medical Officer and his staff did excellent work. They never spared themselves and showed the greatest devotion to duty. Complaints against orderlies was frequent, but this was due to the large proportion of untrained men which had to be employed. On two evils of hospital life it is suggested that the medical officers should be vigilant—the stealing of stimulants and comforts intended for the sick and even their money and other property and the practice of taking bribes. Many complaints were made on this head. The need of special sanitary officers is emphasized by the report. It is suggested that they should be members of the Medical Corps specially qualified and selected for sanitary duties.

Referring to the state of affairs at Bloemfontein in May, which, it may be remembered, was the principal point of Mr. Burdett-Coutt's attack, the Commission says that when the army began to advance toward Kroonstadt the field-hospitals had to be cleared in order to accompany the troops and the patients had to be discharged into general hospitals. As the advance continued the sick and wounded were sent back to Bloemfontein with the result that there was great overcrowding of the hospitals. One hospital, the regular complement of which was 520 patients, had to receive 1,400. The doctors and orderlies were overworked and there were too few nurses. There was a deficiency of necessaries and, the report adds, a want of energy in improvising substitutes or in remedying defects. Patients were not properly nursed and typhoid patients, though probably not of a severe type, had to wash and tend themselves, night stools were not properly emptied, etc. Generally speaking, the difficulties at Bloemfontein were due to defective transport and a violent epidemic of typhoid fever which could not have been foreseen. The Commissioners think the difficulties were not realized as soon as they might have been and that more doctors might have been obtained and sent up earlier.

**Small-Pox in New York.**—Another nest of small-pox was discovered last week in the upper West Side of the city. Thirteen patients were removed from one building. One patient had died and the others had been sick a week.



## TRANSACTIONS OF FOREIGN SOCIETIES.

## British.

NEPHRECTOMY—BACILLUS AEROGENES CAPSULATUS—  
RADIOGRAPHY AND DIAGNOSIS—CIRRHOSIS MALIGNA  
—PRIMARY HEPATIC CANCER AND CIRRHOSIS—MI-  
TRAL DISEASE—RHEUMATISM AND THE SKIN.

F. HEUSTON, at the Section on Surgery of the Royal Academy of Medicine in Ireland, November 9, 1900, exhibited a case of nephrectomy for sarcoma of the kidney. The woman, who was twenty-four years old, noted in the winter of 1898 a large painless tumor in the right side, had severe hematuria for three days in February, 1899, but no recurrence of it since, complained of a gradual increment in the mass until September of that year, when it began to cause dragging and pain in the erect position of the trunk. Examination at this time revealed a tumor filling the umbilical and right lumbar regions laterally outward from the linea alba and from beneath the costal arch above to the iliac crest and fossa below, freely movable within the abdomen and beneath the skin, of stony hardness, smooth surface and well-defined border, without tenderness or pain on pressure. February 1, 1900, the usual oblique incision was made for a lumbar nephrectomy and a tumor of the kidney chiefly cystic in character was exposed. The larger cavities were aspirated of a clear limpid fluid containing albumin, but no urea. The pelvis of the kidney was much enlarged and filled by a hard growth which extended down the ureter to the iliac vessels and brim of the true bony pelvis. Beyond this point the ureter appeared normal. Hence it was tied off here, dissected upward to the renal vessels from which its pelvis was separated fully before the blood-channels were ligatured. The extraction of the balance of the tumor was now easy. Uneventful recovery resulted. The total excretion of urine during twenty-four hours increased from twenty-one to forty ounces.

A meeting of the Section on Pathology of this same Society was held November 30, 1900, when E. J. McWEENEY gave an account of his recent experiments with the *bacillus aerogenes capsulatus*. A man had had his arm ground almost to a pulp in a thrashing machine and did not long survive amputation, at which a peculiar, gelatinous condition of the tissues was noted. About twenty-four hours after death the corpse presented a most remarkable appearance. It was swollen to at least twice its size and was covered everywhere with large black bullæ and was crepitant wherever touched. The skin was so softened that the point of blunt forceps could be forced through it at any point with perfect ease and out of the holes came frothy fluid made up of turbid serum and sour-smelling gas. Microscopically the fluid was very abundant in a very large bacillus much resembling the anthrax bacillus, capsulated, without demonstrable spores, staining well by Gram's method, multiplying rapidly in anaerobic plate-cultures over alkaline pyrogallol, by which means it was isolated, although not without difficulty. The special dish

used for this purpose was then exhibited. Associated with it were the *bacillus coli communis* and a streptococcus. All three forms grew well in an atmosphere of hydrogen, but not of coal-gas. The best culture medium for the gas-producing germ appeared to be a sodium-sulphindigotate agar.

H. WALSHAM and E. C. BEALE, at the Medical Society of London, January 14, 1900, read their observations upon the value of the skiagraph in the diagnosis of diseases of the chest. Several important conditions must be observed, before a successful issue can be expected. The coil must be one of very high potential, giving a ten- to fourteen-inch spark. A feeble apparatus will fail to be satisfactory. It is necessary to have such a spark some distance from the chest and for photography have the person lie face down upon the couch with the plate suitably protected from damage by light and pressure beneath him. Dermatitis is not a necessary sequel to the use of the skiagraph and seems to be due almost entirely to too frequent exposure at short intervals or to too prolonged exposure at a single sitting, for example, one-half to one hour. Views from various directions are always essential to a good picture and an accurate diagnosis and the best series is from the extremities of a given diameter, for example, from the front and the back, and two oblique views. The vertebrae, rib, scapulae, clavicles and sternum of the bony frame, the axillary folds of the muscular frame and the individual visceral outline must be well in the mind's eye. The heart has a deeper shadow at the ventricular than at the auricular regions. The lungs are translucent, but their outline is distinguishable by the light line of the pleurae. Emphysema increases the translucency of the lungs. Thick pleura gives a slight shadow. Clear fluid except at its upper border does not alter the picture much. Pus is always of very deep shadow indeed. Consolidation is like a solid organ. Aneurisms and tumors so alter the relations of the organs and give themselves such good outlines that they are well within the scope of the instrument and lend themselves to very early and exact diagnosis with it. Tuberculous nodules, being really consolidations, are easily recognizable, usually long before they begin to give physical signs.

H. L. JONES said in the discussion that he regards the radiograph as a more valuable means of examination than the ordinary methods of palpation, percussion and auscultation. In aneurism he has seen it indicate the disease when both symptoms and signs were as yet wanting.

H. D. ROLLESTON, at the Pathological Society of London, January 15, 1901, reported a case of primary hepatic carcinoma secondary to a cirrhosis, the so-called cirrhosis maligna or cirrhosis carcinomatosa. The man was forty-four years old and during life had had hematemesis, hepatic pain and ascites which had required tapping four times. At the necropsy the liver was found cirrhotic and the seat of a primary carci-

noma. There was no other discoverable primary node of cancer anywhere to be found. The growth invaded the liver widely and at the portal vein extended in a wedge-shape formation between the bifurcation of the vein. Microscopically the growth was carcinoma and had spread along the portal vein so that secondary deposits were to be found in other parts of the organ. The cell-arrangement was tubular, not unlike the new bile-duct formation often seen in cirrhosis, and might be called *epithelioma trabeculare* after Hanot and Gilbert. These writers regarded the carcinomatosis and cirrhosis as synchronous, but Sabourin, with whom Rolleston agreed, looked upon the cirrhosis as the precedent lesion. Perhaps the cancer was to be looked upon as an implantation by the cancer neoplasm as yet unidentified.

W. Hunter presented two specimens of primary hepatic cancer grafted upon cirrhosis of the liver, with metastasis in the lungs of each case. The first patient was a sixty-year-old man who was admitted to the hospital for cirrhosis and ascites after a six-weeks' illness. The other man was fifty-five years old and was admitted for cirrhosis jaundice and ascites. Both were systematically tapped, but succumbed. At the necropsy a remarkable similarity of lesion was present, as each had (1) a coarsely-lobulated, hypertrophic cirrhosis; (2) areas of apparently healthy liver-tissue cells scattered through the cirrhosis; (3) cancerous nodules situate in these islands of healthy gland, here and there; (4) metastases in the lungs; (5) no cancer primary to that in the liver; (6) thrombosis of the portal vein. Microscopically the hepatic and pulmonary neoplastic nodes were alike in character. The liver cancer had probably originated in its own normal cells, because many of these were polynuclear and evidently very active in multiplication and metabolism.

J. O'CARROLL, at the Royal Academy of Medicine in Ireland, Section of Medicine, on December 14, 1900, presented a man, sixty-five years old, admitted to the hospital May 25, 1900, suffering from marked dyspnea and sleeplessness due to it, also epigastric pain, thirst and frequent micturition. He had a soft systolic murmur at the apex, albumin and sugar in his urine. He was put to bed and signs of fluid found in his right chest, then in his left. Regular tapping was done eighteen times and a total of sixty-seven pints withdrawn. The last tapping was October 30, 1900. Since then most of his symptoms have ameliorated or disappeared. The best diagnosis appears to be mitral insufficiency with acute dilatation.

H. THURSFIELD, at the Clinical Society of London, January 11, 1901, read notes of a case of rheumatic periostitis and subcutaneous nodules. He was admitted to the wards of the hospital November, 1900, and presented periostitis of the right tibia and diffuse multiple subcutaneous nodules all over the body. There were no evidences of acquired or congenital syphilis, but

many of rheumatic infection, stiffness and tenderness over the hamstring muscles and a small effusion into the knee-joint. The heart was slightly dilated, but without signs of endocarditis. Rheumatic periostitis of the ulna was reported in 1889 by A. Garrod and J. Coutts as a rare affection. The occurrence of subcutaneous nodules with no cardiac lesions is a clinical curiosity. W. B. Cheadle has stated that such subcutaneous nodes are a certain sign of very intense infection and almost always point to cardiac disease. W. B. Hadden in 1889 brought before the Clinical Society another case like the author's, namely, with sound heart although he had the cutaneous deposits.

## SOCIETY PROCEEDINGS

### THIRD PAN-AMERICAN MEDICAL CONGRESS.

Held at Havana, Cuba, February 4-7, 1901.

(Continued from page 284.)

### SECTION ON LARYNGOLOGY, RHINOLOGY AND OTOTOLOGY.

TUESDAY, FEBRUARY 5TH.

**Otitis and Mastoiditis in Eruptive Diseases.**—Dr. A. B. Duel of New York read this paper based on a series of 5,000 cases of measles, scarlet fever and diphtheria, in many of which acute otitis media and mastoiditis occurred as complications. In cases with dual affections the complications were especially prevalent and difficult to treat. Infection takes place mainly through the Eustachian tube and operative procedures alone are capable of giving the best results. Bacteriological examinations of the throat and of the exudates were valuable aids to diagnosis.

In the discussion Dr. Martinez of Havana said that he has always been surprised not to find more cases of mastoiditis in Cuba in proportion to other ear troubles, and finds in Dr. Duel's paper a possible reason for it. Eruptive fevers in Cuba generally run a very mild course, and scarlet fever especially is of such a mild type that often the cases are not cared for; aural complication from this source is therefore rare. The same can be said of measles and diphtheria (in the latter disease on account of the rapid action of the serum). Most of the cases occur as a complication of grip. In reference to operative treatment, he is in favor of the total resection of the mastoid. After having seen it practised by Dr. Whiting of New York, he has operated on a patient in this manner, obtaining a rapid healing; the whole mastoid process was full of soft granulation tissue.

Dr. E. Andrade of Venezuela said that he considers grip the most important factor in the causation of suppurative otitis media and its complications. Being in Genoa last winter during an epidemic of grip, he found that most of the cases were produced by this disease. He is in favor of a radical operative treatment which destroys the posterior wall of the meatus, establishing a free



communication between the antrum and the tympanic cavity. In New York he recently saw a case operated by Dr. Arnold Knapp by Ballance's method, covering the cavity with a skin-flap. The case was doing well at the time.

Dr. G. Landa of Cienfuegos believes that grip is a more common cause of otitis media than the eruptive fevers. He insists specially on irrigating the cavum and entrance of the Eustachian tube with some antiseptic solution as a prophylactic measure, considering this the constant way of infection of the tympanic cavity.

Dr. Duel in closing said that he has not pretended to establish the causes of suppurative otitis media, but to present the relative frequency of this disease as the complication of eruptive fevers; cases of these fevers are the only ones admitted to the institution in his charge. He also points out the severity of cases produced by double infection (measles and scarlet fever) and the necessity of practising a bacteriological investigation in all cases; it is an important measure to operate early in all cases to obtain the best results.

#### Pharyngeal Hemorrhage and Hemoptysis.—

Dr. G. Landa of Cienfuegos read a paper on this subject. He said that in some cases hemorrhage from the pharyngeal wall was so excessive as to give rise to the opinion that pulmonary hemoptysis had taken place.

Dr. Martinez observed that this complication was not unusual in chronic paludal poisoning, especially following operations, and that the administration of quinine was sufficient to prevent its recurrence.

**Chloroform Apparatus.**—Dr. R. Garcia Rijo of Sancti Spiritus then presented an apparatus to be used in operations about the nose. It is made of tin sheeting and has some rubber tubing leading to the nose.

**Laryngeal Inhibition of Respiration.**—Dr. E. Martinez of Havana said that Rosenthal, while studying the physiology of the branches of the superior laryngeal nerve, found that when the internal branch or the root of the superior larynx was excited electrically the respiratory functions of the diaphragm were immediately suspended, but that it did not occur on exciting its external branch destined to the crico-arytenoid muscle. This experimental fact has received its clinical confirmation in an operative accident on extirpating papillomata from the larynx. Reference was made to a girl in whom the respiration was twice suspended while the author was curetting a papilloma.

WEDNESDAY, FEBRUARY 6TH.

**Prevention of Stammering.**—Dr. H. Makuen of Philadelphia read a paper in which he laid particular stress on the efficacy of correct breathing, as an aid to the prevention of this difficulty. Constant respiratory exercise is the keynote to the cure. The patient should not think of what he is saying so much as how he is breathing. Diaphragmatic breathing is to be carefully controlled and gotten under the will of the patient. The

causes of stammering are multifold, but the main cause is probably largely psychical.

In the discussion Dr. Desvernine of Havana referred to a case of stammering in a woman cured by the operation of a lingual adenoid. He differs from Dr. Makuen in considering the cause as an organic lesion of the central nervous system.

Dr. Andrade compared stammering to strabismus, that is, as a disorder of binocular vision by an incoordination of muscular action in the same way the laryngeal muscles maintain an incoordinate action in stammering.

Dr. J. Mullen of Houston agrees with Dr. Makuen as to the cause of stammering and specially in the manner of preventing it. He referred to a case of a boy, three years of age, who was not only a stammerer, but also was unable to swallow solid food and was fed exclusively on milk. Following Dr. Makuen's directions he was submitted to physical training during three months. Internal pressure on the tongue and external pressure on the neck taught him to swallow solid food and later he was able to articulate several phrases distinctly without stammering.

Dr. Makuen said in closing the discussion that after five years of experience, during which time he has treated over five thousand cases of stammering, he really does not know the cause; it is like the cause of asthma, unknown to us. Speech is an acquired faculty and he wonders why all people do not stammer. It is not an organic disease, but he mentions the fact that 33 per cent. of the cases show a history of inheritance. Possibly they inherit the nervous disposition. To say adenoids produce stammering is misleading. It may induce the habit in a nervous case predisposed to it; in the case referred to in the paper just read the child had physical training before and after the operation. In the same way any nasal obstruction, such as a deflected septum, may be the cause of this disease. The operation will only place the patient in a suitable condition for physical training. He referred to a case of a woman who stammered for thirty-six years and broke the habit by physical training with such a success that she afterward opened a studio in New York to cure stammerers. This patient was persuaded that she could break her habit and she set to work so earnestly that at the time of the third consultation she was cured.

**Suppurative Mastoiditis.**—Dr. Finlay read a paper giving the clinical histories of two cases of this affection in which cerebral symptoms developed. Dr. Landa said that the dehiscence of the petrosal suture was in many instances the avenue by which infection of the cranial cavity took place.

Dr. Andrade thought that the cerebral symptoms noted by Dr. Finlay were quite notable. He cited a case of Dr. Strasse of Genoa in which abscess of the temporal lobe developed without showing any signs of papillitis. Hence this diagnostic symptom is not always present. Radical operation was necessary since no internal remedies were of value in cerebral involvement.

Dr. M. Herrera of Mariano insisted on early operative procedures.

Dr. Desvernine adopted a more conservative attitude. Many cases are certainly benefited by early operation, but some cases recover without such operation.

Dr. Finlay, in closing the discussion, maintained that operative procedure was alone of value and should be used in all cases. He did not trust to the ordinary routine non-operative methods.

**Pharyngo-Laryngeal Paralysis.**—Dr. C. M. Desvernine of Havana read an interesting study of a case of Avelli's type of pharyngo-laryngeal hemiplegia, in which he discussed at length the anatomical, physiological and pathological features of the facial, pneumogastric and Will's accessory nerves, especially in relation to their distribution in the soft palate and in the larynx. He further presented a study of a human monster in which he had made research bearing on these same points. The paper is exhaustive and technical, but is a noteworthy addition to our knowledge of the peripheral distribution of some of the more important cranial nerves.

Dr. Andrada then reported the case of a man with the symptoms of acquired syphilis, who was treated in Prof. Secondi's clinic for a paralysis of the internal rectus of the left eye and of a sharp, intermittent and painful contracture of the abductor muscles of the right eye. Antisyphilitic treatment by injections of bichloride and potassium iodide was unavailing. He then made a tenotomy of the muscles of the external rectus of the paralyzed eye and a similar operation on the right eye. Although absolute results could not be hoped for, the paralyzed eye recovered its function and the contractures of the muscles of the right eye disappeared. These results are significant as bearing on our knowledge of the innervation of the ocular muscles.

Dr. Landa thought that the study of Dr. Desvernine was an important step forward in our knowledge of the important signs by which one could differentiate between central and peripheral paralyzes of the facial nerve, paralysis of the velum furnishing the important diagnostic symptom.

Dr. Andrada spoke of having seen a similar case in Dr. Knapp's clinic in which there was no paralysis of the velum.

**Foreign Bodies in Air-Passages.**—Dr. A. W. de Roaldes of New Orleans read this paper. In presenting sixteen cases of foreign bodies in the lower air-passages, the author points out the fact that the twelve recoveries that took place had been operated upon, while the four deaths were among the cases that refused the operation. Dr. de Roaldes adds that leaving aside all consideration of statistics, which are at times misleading, he wishes to put himself on record as the result of his personal experience, for advocating in most cases an early surgical intervention. Apart from the question of foreign bodies in the larynx, the treatment of which is pretty well agreed upon, he says in conclusion: (1) That the presence of a foreign body in the trachea is always a more or

less serious accident; (2) that in such cases prompt and proper action must be resorted to, in order to anticipate swelling and ulceration of the mucous membrane and any infectious process resulting from the prolonged presence of the foreign body; (3) that this indication is best fulfilled by a tracheotomy, at a level most suited to the requirements of the case; (4) that if not coughed up shortly after the opening of the trachea, the foreign body should be located by means of tracheoscopy and of bronchoscopy, and its extraction effected, is possible, under a light, and with improved instruments. In closing, he adds that in the question of foreign bodies in the air-passages, as well as of those in other regions, radiography may be very useful for such substances as are susceptible of being located by this process. As to metallic bodies that are magnetic, he suggests the trial of Haab's giant magnet, which under certain circumstances might prove of great value by placing it before the mouth or before the tracheal wound, according to the situation of the foreign body.

(To be continued.)

#### NEW YORK ACADEMY OF MEDICINE—SECTION ON MEDICINE.

Stated Meeting, Held January 15, 1901.

J. H. Huddleston, M.D., Chairman.

**Mosquito-Malaria Theory.**—Dr. W. N. Berkeley said that in the neighborhood of New York two forms of the *Anopheles* mosquito, the malaria-carrier, are quite common. These are the *Anopheles quadrimaculatus*, so-called because of the four spots on its wings, and *Anopheles punctipennis*. The former is common, the latter rarer. The *Anopheles* mosquito can be distinguished from other common varieties because its palpi are as long as its proboscis and the commonest variety has spots on its wings. The posture of the insect of the genus *Anopheles* has often been said to be characteristic. Dr. Berkeley has made a special study of this subject and is of this opinion. Posture alone, however, is not an exclusive method of recognizing the insects. Dr. Berkeley has often caught specimens of *Culex* that were not resting parallel to the wall or ceiling on which they stood, but somewhat at an angle. This posture at an angle is usual with *Anopheles*. The *punctipennis* variety is found very commonly in The Bronx region, especially in the neighborhood of Jerome Park. *Quadrimaculatus* is found in all of the suburbs of New York where malaria occurs. So far as known no malarial district is without some variety of *Anopheles*. Considerable study has been devoted to this question as regards the vicinity of New York, so that this of itself is an interesting confirmation of observation made in other countries.

**Interesting Facts.**—There are certain places especially on Long Island where, notwithstanding the fact that *Anopheles* mosquitoes are reasonably frequent, there is no malaria. In one or two of these places the nights are so cool during the sum-



mer that the inhabitants sleep under blankets. It is probable that this coolness of the nights has much to do with the failure of malaria to develop. A few cases of malaria have been noted in and around New York, near which no specimens of *Anopheles* could be found. The mosquitoes were looked for, however, only in the day, while it is usually at night that they are on the wing. The malarial mosquitoes are found most often in foul, ill-ventilated and dark rooms. These, of course, are mainly the apartments of the poor. Needless to say it is in this class that malaria is most frequent. The *Anopheles* practically never bites during the day. In this it differs from the more common mosquito *Culex*, which is particularly ravenous during the day.

**Earliest Malaria.**—The earliest cases of malaria in the spring depend upon the date at which *Anopheles* bite. This is not definitely decided as yet. The earliest fresh cases of malaria reported in Italy occurred about the middle of June. Dr. Berkeley thinks that he found, in the case of a gardener at Larchmont, one in which a fresh malaria developed on March 16th. Therefore the patient must have been stung by a mosquito about March 1st. As a rule, cases of malaria which occur in the spring are relapses from previous attacks of the disease. The patient in Dr. Berkeley's case was an intelligent Scotchman, who had not had malaria for ten years, and the most probable explanation of the origin of the disease seemed to be that it was primarily acquired some two weeks before its onset. *Anopheles* does not hold over during the winter, except in the case of impregnated females which may be discovered hibernating. This is a well-known fact. In the neighborhood of New York *Anopheles* has frequently been discovered about Christmas clinging to the wall in dark places. It is interesting to note how few the male mosquitoes are in number. It is always the females who sting.

**Forms of Malaria.**—Tertian malaria occurs quite commonly. Fresh cases of it can be studied among the workmen at the Jerome Park reservoir. Quartan fever is much more rare and a case in which a positive diagnosis could be made has not yet been observed. Cases in which crescents occur, that is, crescentic forms of the malarial parasite, are not influenced by the administration of quinine.

**Inoculation of Malaria.**—The artificial production of malaria in the human being was tried in the case of a resident at the Presbyterian Hospital who volunteered for the purpose. He was stung by a malaria-bearing mosquito and fourteen days later developed some temperature and diarrhea and even had a chill. The symptoms did not continue, however, passing off after twenty-four hours and no parasites were found in his blood.

**Malaria in Manhattan.**—Only one case of malaria that seemed to have been acquired on Manhattan Island has come under Dr. Berkeley's observation. This was a young boy, living on Tenth Street, who had not been out of Manhattan for some time. All the other cases of malaria investigated were evidently imported from outside Manhattan.

So far *Anopheles* mosquitoes have not been discovered on Manhattan Island. This subject is an interesting one for investigation and one in which many observers could share with interest and at the same time with value to medical science. The exact period of incubation, that is, the length of time between the bite of a mosquito and the development of symptoms of the disease, was observed in one case. The patient had not been out of the city for several years. She went only once to Fordham to nurse a sister and three children who were suffering from chills and fever. Exactly fourteen days after her return she had a chill; she did nothing for it and two days later had another, and two days after this she had a third chill. Then she consulted a physician. Her blood was found to be swarming with malarial parasites.

**Prophylaxis of Malaria.**—In non-tropical countries there seems to be some hope of completely exterminating the disease. The important measures are the rigorous quarantine of malarial cases in human beings. They must be so guarded that it is impossible for mosquitoes to get at them. The second important precaution is the prophylactic use of quinine. Dr. Berkeley has had one opportunity to test the effectiveness of prophylactic measures in the neighborhood of New York. The first case of malaria occurred in a coachman and then other servants in the house were attacked and cases occurred in surrounding houses. An abundance of *Anopheles* mosquitoes of the *quadrimaculatus* type were found to exist in the neighborhood. For the extermination of the mosquito certain pools which existed in the neighborhood were drained off and filled in. Screen-doors and window-screens were put in position. In addition to this infected cases were carefully surrounded by mosquito-netting, especially at night. The results of these precautions were promptly seen and no more cases occurred. For the extermination of malaria in the vicinity of New York certain measures are advisable. The City Health Board should require all cases of malaria to be reported exactly as is done in scarlet fever or measles. A code of instructions should be issued to enable people to recognize and kill *Anopheles* mosquitoes. Stagnant pools of water should either be drained and filled in or should be heavily petrolled. In an infected neighborhood quinine should be freely used, and it should be supplied at public expense to people who have not the means to pay for it. Those affected by the disease should be carefully guarded from the possibility of being bitten by mosquitoes and thus spreading the disease. In an island near the Italian coast these measures, rigorously enforced, have proved successful in exterminating the disease, although it existed for a long time in virulent form.

**Malarial Dangers in Our Cities.**—One great source of danger in New York and in American cities generally is the present mode of extending streets out into uninhabited districts. Streets are raised to grade and owners are permitted to delay the filling in until such time as they are ready to improve their property. This gives occasion for

large stagnant pools of water that exist all the year around. These pools form favorable breeding-ground for the *Anopheles* mosquito. The existence of these pools makes local eradication of the disease practically impossible.

**Greatest Discovery of the Age.**—Dr. William H. Thomson said that the more one reflects on the mosquito-theory of the distribution of malaria the more one becomes persuaded that its discovery is an important event in the history of medicine—more important even than the discovery of the germ that causes tuberculosis. The finding of the true source of malaria brushes away at once all the old ideas with regard to essentially-unhealthy climates. An unhealthy climate is always an infected climate. It is not soil and air and water, nor changes in them, that cause disease, but the fostering of germ-life. If a sanitarian were given the price that it costs to build one ironclad he could disinfect the most unhealthy place on earth. These important facts with regard to malaria should be brought before the notice of the general public. We owe it to them to make them acquainted with the latest developments of medical science that can accrue to their benefit. It has always been the custom of the profession to instruct them. It is now a duty.

**Italian Malaria.**—Dr. James J. Walsh said that as the result of Italian investigation with regard to malaria the feeling in Rome as to the disease has changed very much in recent years. There is now the greatest confidence exhibited that before long the city shall be entirely free of the disease. American students in Rome feel that if they protect themselves at night from mosquitoes they are sure to avoid the dreaded Roman fever. At Albanella, near Naples, where malaria of the most virulent form has existed since early Roman times, a small colony of Italian scientists demonstrated that it was possible for people who had never had malaria to dwell in the most malarial part of the region a whole summer without contracting the disease.

**Estivo-Autumnal Malaria.**—Dr. Morris Manges said that this type of malaria is often said to be rare in New York, but it is much more frequent than it is thought to be. Careful blood-examinations, especially since the Spanish war, have made physicians more generally familiar with the parasite of this type, and have shown this to be true. Another erroneous notion that is being eradicated is that children rarely suffer from malaria. Koch has found that in South Africa the children are quite frequently attacked, and this has been Ross's experience in India. Malaria used to be considered a curiosity in children, but it is much more frequent than has been thought.

**Present-Day Grip.**—Dr. William H. Thomson said that diseases alter but little in the course of years. The course of the same disease in two different seasons may present notable differences, but the manifestations of the disease in a series of years present a picture that approaches very closely a definite disease type. An exception must be made in this regard for influenza, the clinical symptoms

which have certainly grown milder since the first invasion of the disease and the great epidemics of 1899, 1890, and 1891. Serious cases still occur, but they are rare. Dr. Thomson has recently had under his care four cases of delusional insanity due to grip. They were transient in character, but very acute while they lasted. In some recent cases chronic meningitis has followed as a sequela of influenza. Another case was followed by extensive desquamation of the skin. In older patients acute gastritis is sometimes a serious manifestation of grip and may prove almost fatal. In one case seen recently the principal symptom was a sweat so profuse that fluid dripped from the bed. In a physician, who was suffering from grip, acute nephritis developed and was followed by chronic Bright's disease.

**Symptomatic Treatment.**—This is all that can be accomplished for the disease as there is no specific remedy known. The most prominent symptoms at the beginning of the disease are the aches and pains in the bones. For the relief of the general aching which occurs at the beginning of infectious diseases aconite is the best drug. This modifies capillary congestive states, quiets the heart and brings the circulation back as nearly as possible to a normal condition. After aconite the drug that gives most relief is Dover's powder. With these should be combined some one of the coal-tar analgesics and phenacetin has proved the most useful. This should be given as an analgesic and not as an antipyretic. Dr. Thomson's favorite prescription is the following:

R	Aconite, solid extract....	gr. j-vj
	Dover's powder.....	gr. j
	Phenacetin .....	gr. viij
	Quinine .....	gr. vj

This is sufficient for two pills. Of these pills six should be taken the first day and each succeeding day until the fever subsides. Then three should be taken every day, until all the catarrhal symptoms have disappeared. These pills are made up by many of the manufacturing pharmacists.

If there is considerable dryness, discomfort and irritation of the throat, a quart of hot water should be used to irrigate it. In the water should be dissolved two drams of potassium chlorate and five drops of oil of peppermint. In order to secure the distribution of the oil of peppermint through the water, it should be dropped upon the chlorate of potash before this salt is dissolved in the water.

**Supra-Orbital Neuralgia.**—It is a characteristic of grip to produce painful affections of the accessory sinuses and the supra-orbital pain which results from this is often almost unbearable. A certain amount of photophobia is often associated with the pain and patients are in great misery. These pains often recur at regular intervals and a favorite time for their recurrence is the morning hour. Patients are often entirely comfortable at night. The best remedy for these



is a dram of ergot given every three hours in combination with a dram of cinchona. Ergot is the ideal remedy for periodical neuralgias. When quinine and Warburg's tincture have failed to give relief it often proves of immediate service.

**Paroxysmal Cough.**—Patients suffering from grip are often troubled by a paroxysmal cough, which is most disturbing at night. For this ammonium bromide in twenty-grain doses, in combination with ten grains of antipyrin, will often give relief. These paroxysmal coughs seem to be dependent at times on a viscosity of the mucus secreted during the influenza bronchitis. The presence of this thick mucus sometimes blocks small bronchi and so leads to the development of areas of capillary bronchitis. The disturbance of the ventilation of certain areas of the lungs leads to loss of tone and to the occurrence of patches of peripheral lobular pneumonia.

**Emulsion of Linseed Oil.**—An important indication in cases of grip is to liquefy the mucous secretion of the disease. The ammonium compounds often failed to do this, especially in the smaller bronchioles. The best expectorant for the purpose is the emulsion of linseed oil, which has no equal. It has been sold in recent years as a proprietary remedy. It may be combined with one eighth-grain of opium and eight grains of chloral and administered every four hours. Counterirritation must not be neglected in these cases. Large cloths should be wrung out in warm water to every pint of which one dram of capsicum has been added. If fine râles exist at the base of the lungs, as will be found to be the case oftener than is usually thought, this should be kept up for a couple of weeks. In these capillary bronchitic conditions inhalations of oxygen are often of service, especially if the gas is administered by means of a large mouthpiece which covers both mouth and nose, as in the administration of ether.

For the prostration which so often accompanies grip, fluid extract of coca with nux vomica constitutes the best remedy. This prostration is the serious symptom of grip. Even with a slight influenza patients should go to bed and stay there. To continue on the feet may cost the patient his life even in mild cases. Rest in bed is often quite enough treatment for the affection, but patients will insist on getting up, although their purpose may be no better than to go to a dancing-party and further spread the infection. It must not be forgotten that grip is as infectious as measles.

**Anomalous Symptoms.**—Dr. A. H. Smith said that while cases of influenza seem milder this year, some of them are associated with anomalous symptoms. He had just come from a case of mild grip in a young man, in whom, without any local reason, retention of urine had developed. Nearly a quart of urine was removed by catheterization. Dr. Smith's experience has shown him the value of ergot in brow neuralgia. Some years ago, while acting as surgeon to the Brooklyn bridge builders, Dr. Smith had con-

siderable experience with the painful symptoms which often accompany caisson disease. For these pains full doses of ergot acted like magic, while other analgesic remedies failed to give relief.

**Prophylaxis of Grip.**—Dr. Crooke said that not enough has been said about the prophylaxis of grip. Isolation of cases is, of course, not practicable. Certain individuals are, however, so susceptible to the disease, the young and the old, those with vulnerable organs, the tuberculous and the generally feeble and delicate, that they should be recommended to leave the infected district and go to a better climate. For this Florida is especially suitable. The elevated table-lands in the center of the peninsula make an ideal winter resort for such susceptible individuals. It would seem that quinine would act as a prophylactic against grip. If patients seem susceptible, that is, if they have had the disease several times before, four or five grains of quinine should be taken morning and evening during the existence of an epidemic. Stimulants are also important and a half an ounce of whisky may be advised if there seems special liability to grip, but this advice must be judiciously given. Physicians who are frequently exposed to contagion should often practise irrigation of the nose.

**Treatment.**—At the beginning of an attack of grip a mercurial or saline purge should be given if there seems to be any necessity, but not as a routine. If headache and pain are prominent symptoms five grains of phenacetin and twenty grains of sodium bromide should be given every five hours. Phenacetine seems to be especially applicable in grip and to be almost specific in its action against the pain. When fever asserts itself the following prescription may be employed:

R Dover's powder,.....  
Quinine,.....  
Acetanilid .....aa gr. ij

Two of these powders should be given at once and then one every three hours during the continuance of fever. If there is much excitement and restlessness a hypodermic of morphine should be given. The cough of grip is often as difficult to treat as that of whooping-cough. The following prescription has been found especially useful:

R Phenacetin ..... gr. ii  
Codeine ..... gr. j-vj  
Extr. glycyrrh. fl..... gr. j  
Heroin..... gr. j-xxii

When the cough seems hard and hacking, muriate of ammonium, grains 3, should be given. In robust patients apomorphine, grain  $\frac{1}{30}$ , will be found of the greatest service. For the muscular pains which so often develop after grip and in which salicylates seem to do no good and give dyspepsia, Turkish baths will be found to furnish the greatest measure of relief.

**Capillary Bronchitis and Counterirritation.**—Dr. Morris Manges said that any one who makes

it a routine to examine the bases of the lungs will be amazed to find how often fine, dry râles occur at the end of expiration, often on both sides of the chest, the more frequently on the left at the very beginning of the disease. These râles mean a bronchiolitis of the smaller tubes. Atelectatic areas, from plugging of the bronchi, will be frequently found. For these symptoms counterirritation, especially the use of Priessnitz' bandage, is of great importance. It should be changed every four hours and it serves the very useful purpose of keeping patients in bed at times when they might otherwise insist on being up. For the cough heroin is an excellent remedy. Combined with terpene hydrate or potassium iodide it usually gives excellent results.

#### NEW YORK NEUROLOGICAL SOCIETY.

*Stated Meeting, Held January 1, 1901.*

The President, Frederick Peterson, M.D., in the Chair.

**Spinal Accessory Paralysis.**—Dr. Pearce Bailey presented a man who last March had been operated upon for suppurating glands of the neck. During the operation the spinal accessory nerve had been cut. There had been immediate and complete paralysis of the sternomastoid and trapezius. About six weeks later the nerve had been sutured, with considerable improvement in the symptoms. During the past summer a weakness had appeared in the deltoid and in the muscles supplied by the musculospiral nerve. There had been considerable return of power. A fairly large incision had been made at the operation in the region of the mastoid. On inspection the shoulder on the affected side was seen to droop and the scapula hung away from the spine. The only anesthesia observed had been limited to the ear and over the right side of the face—an area corresponding to the supply of the great auricular nerve, which had undoubtedly been cut at the same time. There was now marked hyperesthesia over the distribution of this nerve. When first seen the position of the head had been slightly toward the injured side and a little downward.

Dr. E. D. Fisher suggested that there was a psychical element in the case. He said that on pressing along the muscles of the arm slowly there was no reaction, but if done suddenly there was a spasmodic contraction of the muscles of this region.

Dr. Joseph Collins did not think the whole condition had been explained by Dr. Bailey, for, in his opinion, there were symptoms of root involvement over a rather extended area. He could not understand how these could be explained by mere section of the spinal accessory nerve. The tic of the facial muscles and on either side of the neck and the narrowing of the palpebral fissure appeared to be associated with fibrillary twitchings. This would indicate a rather extensive involvement of

the anterior roots in the cervical region. He would also like to know about the condition of the pupils.

Dr. F. Peterson said that he had seen this case before and had been interested in the complications. He had seen the man before the appearance of the twitchings, and on first noting the latter he had been inclined to assume that it was hysterical. However, after having made the electrical examination he had felt sure that it was not hysterical, but a pressure palsy involving a number of nerves, possibly as a result of sleeping with the arm in an upward position.

Dr. Bailey said that the suppurating gland had been situated deeply underneath the sternomastoid. When first seen by him last April there had been a typical picture of paralysis of the sternomastoid and trapezius, but no symptoms referable to the arm, no tics and no functional disorders. The man had been completely incapacitated for work, and this probably explained his psychical condition. The irritative condition of the face was probably explicable by the formation of new connective tissue in the scar. As soon as his attention had been called to the pressure palsy he had been watched at night and prevented from sleeping on his arm, and this had resulted in immediate and decided improvement. It was probable that in time the man would get fairly good use of his arm.

**Facial Hemiatrophy.**—Dr. Max Mailhouse presented a man, twenty years of age, without neurotic family history, who twenty-two months ago had a discoloration appear on the right side of the face below the lower lid. It had begun as a pale, depressed spot. When first seen by the speaker the right side of the face had been much atrophied and the beard had been absent on this side. The mouth had been drawn to the right and the right half of the tongue was much atrophied. The apparent prominence of the right eyeball was due to retraction of the lower lid. The hair of the right half of the scalp was grayer than on the left and was falling out. He had been losing his teeth on the right side. The nasal cartilage was wasted and its tip was turned to the right. The muscles of mastication were also atrophied, and this was associated with spasmodic pain. There was a fibrillary tremor of the large muscles. The affected muscles reacted feebly to faradization and normally to galvanism. No scleroderma was found. For the past two months there had been twitching of the muscles at the right angle of the mouth, and at times, after laughing, this angle would remain retracted. At such times there was a very tender spot in front of the ear. A blow of moderate severity had been received over the mouth ten years ago. No other etiological element could be elicited, and even this one seemed to have but little weight. The atrophy of the tongue seemed to be a strong argument for the theory that this affection is a trophoneurosis.

Dr. C. L. Dana said that he had met with several such cases and had found them all quite obscure. At one time the view had prevailed that it was a trophoneurosis due to some lesion of the



trophic root—a condition very difficult to understand. In one of his cases there had been a typical diffuse trigeminal neuritis, occurring in a woman of about forty years. The attack had begun with herpes and neuralgia and had been followed by a general neuralgia in the course of the fifth nerve. After this there had been atrophy and some anesthesia and, finally, a peculiar pitting of the face, like that from smallpox. In another case the trouble had begun, as it often did, with pigmented spots and neuralgia, and this had been followed by anesthesia in spots and a typical progressive anesthesia involving all the tissues, including the masseter muscle and the bone. In this patient there had been deafness and some disturbance of vision on the affected side. It was difficult to understand how a trophic or central lesion could cause all these symptoms. A herpes was almost always a sign of peripheral trouble. Another case had been that of a woman, who had married at the age of seventeen. Her husband had died, it was said, of syphilis a few years later, although the woman denied ever having become infected. She had had a progressive facial hemiatrophy for a number of years and had finally developed atrophy on the same side, affecting the arm and the leg. In none of his cases had there been anything indicating the true nature of the etiology. Perhaps the best explanation was that of a peripheral lesion as a starting-point. He had obtained no definite results from treatment, perhaps because he had not been able to keep these cases under treatment for a sufficient length of time. If the trouble were peripheral, Dercum's idea of resecting the trigeminal seemed to be worthy of consideration.

Dr. J. Fraenkel asked if any difference had been observed in the behavior of the sweat-glands on both sides of the face.

Dr. Mailhouse replied that there had been less sweating on the affected side.

Dr. Joseph Collins thought the disease could be explained just as well by a central as by a local lesion. He was inclined to think that the patient just presented had a lesion in the pons—in the area of central representation of the sympathetic nervous system in the pons. The lesion was probably a slowly progressive one, such as a gliomatosis. There already seemed to be involvement of the motor nuclei in the medulla oblongata. The enlargement of the pupil would be explained by an irritation of the sympathetic which had gone on to paralytic effects.

**Progressive Lingual Hemiatrophy.**—Dr. C. L. Dana presented in connection with the last case a rather rare form of progressive lingual hemiatrophy. It occurred in a man, twenty-six years of age, who had had the trouble three years, but had been otherwise in perfect health. The half of the tongue was slightly wasting away, and this was associated with fibrillary twitchings. The patient was a healthy young medical student without history of syphilitic infection or nervous heredity. It did not seem to him necessary to suppose that there was a gliosis, for Mendel has

already shown that there is a change in the motor root of the trigeminal. Of course, these changes might be secondary to degeneration and partial destruction of the nerve.

Dr. Peterson said he was inclined to believe with Dr. Collins that some central lesion would best explain the condition. He had seen several cases, but all of them in a much earlier stage. In none of them had the tongue or the muscles of mastication been involved, nor had they presented the same pupillary phenomena.

Dr. Mailhouse thought the dilatation of the pupil might be explained by a similar process involving the sphincter pupillæ and causing weakness. Hoffmann had reported some improvement from the use of galvanism for half an hour daily.

#### MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

*Annual Meeting, Held at the New York Academy of Medicine, January 14, 1901.*

The President, Robert F. Weir, M.D., in the Chair.

**Operative Treatment of Umbilical Hernia.**—Dr. Joseph A. Blake said that if early operations were done more frequently the results in this class of cases would be more satisfactory. The symptoms met with in umbilical hernias are of two kinds: (1) Those due to the size of the hernia and (2) those due to complications. Hernias which are irreducible on account of omental adhesions are exceeding common. If strangulation occurs, the prognosis is more grave than in inguinal or crural hernia. The statistics of operation are not of much practical service, because of the failure of surgeons to report unsuccessful cases, and because of defective methods employed. According to Bull and Coley, the mortality in irreducible umbilical hernia is 5 per cent., and in strangulated hernia about 60 per cent. Diagrams were presented showing the attenuated condition of the linea alba and the recti muscles. Dr. Blake briefly described the various procedures which had of late years been brought forward by different operators, such as the splitting of the sheaths of the muscles, etc. In speaking of the flap operation (in which the dorsal and ventral sheaths are both made use of), which was first described by Noble, of Philadelphia, in 1896, he said that the great objection was that when a sheath is removed from its muscle it loses its vitality. The operation to which Dr. Blake wished to call special attention was one of which he thought at first that he was the originator, but which he found had been described by both French and German surgeons, working independently of each other and who published their papers within one month of each other. Its main features are separate suture of the peritoneum, lapping of the recti muscles,

and suturing of the skin. The linea alba is excised above and below. Three different kinds of suture are employed, plain catgut, chromicized, and silkwormgut sutures. Stress is laid on the importance of cleansing all fat from the surfaces. The advantages claimed for the procedure are: (1) The durability of the abdominal wall at the hernial site; (2) the breaking of the lines of sutures; (3) broad surfaces for union. Dr. Blake has performed this operation with perfect success in three cases. Certain modifications were made in accordance with the special conditions existing in each instance. In the first case, that of a multiparous woman of thirty-eight years, with large abdomen and large hernial sac, only a portion of the sac was excised.

Dr. W. B. Coley said that most of the new methods brought forward have very few cases behind them. The one described by Dr. Blake certainly has many advantages, but also some disadvantages. Among the latter are the extensive dissection required, the danger of infection, and the risk of the operation. Prolonged etherization adds materially to the danger. At the same time, if this procedure has greater advantages, one can afford to take additional risks on this account. The main question to general practitioners in these cases is: Is any operation advisable? It was Dr. Coley's opinion that except by the most skilful operators and under the strictest aseptic conditions, no operation should be done. In nine cases of his own he had had nearly 50 per cent. of recurrences. As to whether a patient was better off after a recurrence than before the operation was performed, in his experience the condition was not improved. In one case in which there had been a recurrence one year after an operation by Dr. Bull, and a second recurrence, also within a year, after an operation by himself, the condition was worse than before. Up to the present time the Guzzoni operation had seemed to him the most rational, but he said he would be pleased to give Dr. Blake's method a trial and would hope for better results.

Dr. W. B. De Garmo said that he had always been somewhat at sea in regard to patients with umbilical hernia. Out of many hundred hernial operations performed by him there had been only sixteen for umbilical hernia, and in these cases he was forced to operate. On the whole, he believed now that he had been too conservative, and he was inclined to agree with Dr. Blake that one should not wait too long. He then made the statement that for several years he had been doing this very operation described by Dr. Blake, although he had never made any claim for priority in the matter. His method was not precisely the same in all respects, however, as that of Dr. Blake. In his later cases he had overlapped the abdominal wall without interfering with the peritoneum at all. He thought very favorably of overlapping, and, while he had formerly had about 50 per cent. of

recurrences, his results had been better since adopting this plan.

Dr. E. Eliot, Jr., thought that there were some objections to Dr. Blake's operation, as well as a number of advantages in it. He did not see how one could approximate the aponeurotic fibers properly, and the best abdominal operators had always trusted more to the approximation of aponeurotic rather than muscular fibers. It seemed to him that the method was worthy of an extended trial in those cases in which it could be employed without putting the lateral portions of the abdominal wall on the stretch.

Dr. R. T. Morris said that Dr. Blake's method was mechanically attractive, but, from the experience in analogous cases, he was afraid that one would have to anticipate the following results: (1) A progressive thinning of the overlapping fibrous structures, unless the muscular structures should also be brought together. (2) Atrophy resulting from the line of traction of the rectus muscle producing absorption. In cases of diastasis he has been in the habit of taking out the linea alba, suturing the posterior sheath with the peritoneum, and then carrying the suture through the anterior, care being taken that the suture does not enter the fat.

Dr. Weir said that during the last five or six years he had had about a dozen operations. The hernial ring was cut out, the fascia approximated, and the layers sewn together, and the cases had done very well. In his experience he had found two forms of umbilical hernia. In the first there was a rather relaxed abdomen, and an operation was comparatively easy. In the other, with large omentum and abdomen and great tension, it was much more difficult. In some cases it was very difficult to make any overlapping whatever.

In closing the discussion Dr. Blake explained that the dissection involved was not extensive. The subcutaneous fat must be dissected off, but it can be done very quickly. As to the peritoneum, it can be left, if necessary. He did not claim this operation as a new one of his own, and was glad to hear that Dr. De Garmo had performed it successfully. The operation restored the muscles to their normal position; they were not changed in direction.

**Cocaine Anesthesia in Eye Affections.**—Dr. N. J. Hepburn said that cocaine had stood the test of time, and was still the standard by which other reputed local anesthetics were judged. It was not the object of the paper to speak of it in operations, but as a source of comfort to the patient in various painful affections. In these it was used as an adjuvant, but not to take the place of other remedial agents. It should be used in weak solutions ( $\frac{1}{2}$  to 1 per cent.). If a 4-per-cent. solution was used it was apt to cause much subsequent suffering and to increase congestion. It was contraindicated in purulent and gonorrheal ophthalmia, and, in general, was of no service in affections of the deeper tissues of the eye.



**NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.**

*Stated Meeting, Held December 21, 1900.*

Dr. L. W. Ely read a paper entitled "A Few Observations from the Lorenz Clinic," and Dr. H. L. Taylor a resumé of the treatment of Orthopedic Affections at Berck, France.

**Reposition of the Congenitally-Dislocated Hip.**—Dr. Ely, in a recent visit to Vienna, had spent some time in observing the practice of Lorenz, who was receiving cases of congenital dislocation of the hip from all parts of Europe. The cutting of tendons and instrumental traction were rarely seen. When the head of the bone had been replaced with suitable force and manipulation, the reduction was maintained by a most elaborately-applied plaster-of-Paris spica, which did not include the trunk and extended below only to the knee. The patient was then sent home to stay several months. The results were good and sometimes so brilliant as to justify the enthusiasm of the operator, who believed that when a knowledge of the operation was widely spread reduction would be made at such an early age as to almost preclude the possibility of a failure. The remarkable statistics of successes which had been published had their origin partly in enthusiasm and partly in the undoubted excellence of a method applied with requisite technic.

Dr. H. L. Taylor reported that the experience of Calot in his hospitals at Berck, on the channel coast of France, had showed that the bloodless reduction of congenital dislocation of the hip was applicable in children up to eight years of age, or later, in exceptional cases. Active treatment covered from six to twenty-two weeks and included two or three weeks traction with a weight of from ten to twenty pounds, and at the operation the application of a force of 300 pounds for ten minutes to bring the head of the bone down to or below the acetabulum. When the retaining apparatus was removed massage and training in walking completed the treatment. Patients had recovered without the trace of a limp. He had practically given up the open method. The correct attitude obtained by cutting would be at the expense of limitation of motion or ankylosis, which might be properly sought by this method in certain cases in which replacement was impossible.

Dr. R. H. Sayre had seen Lorenz operate last year in Paris at the Redard clinic. The patient, a child of about eight years of age, was moderately disabled by a single dislocation of the hip. The thigh was made to form an angle of perhaps 20 degrees posterior to the plane of the body. A great amount of force was employed for this and in turning the limb in various directions. The head of the femur could be heard as it popped around on the ilium in what must have been a mass of lacerated tissues. The spica, which was nearly two inches thick where the strain came, included two loose strings for

subsequent use in scratching the skin and keeping it clean. The head did not assume a permanent residence in the acetabulum. It was said that it would do so after the child had walked about for a year or two in the spica, a question which would have to be answered in due time.

Dr. C. H. Jaeger had recently spent six weeks at Vienna and reported that the treatment of congenital dislocation at the Lorenz clinic was exclusively by the bloodless method. Double cases were treated singly. The results were very favorable. The spica was applied with great care. Only a thin layer of cotton padding was used. The plaster bandage was applied very snugly, the thigh only being enclosed and a narrow strip going about the pelvis. This left the knee and ankle free and also the whole spinal column. The limb being thus fixed in extension and abduction, the patient soon learned to walk without crutches and with (in single cases) a high sole on the sick foot. It was most interesting to see a child with double dislocation, with both legs strongly abducted, spread eagle fashion, walking beautifully, hopping with one leg, then the other without a stick or help of any kind. Lorenz was accustomed to lay great weight on having the parents of the patient extend the knee many times daily, to prevent contracture. In opposition to these views Hoffa strongly advocated the open method.

Dr. W. R. Townsend said that Hoffa had stated in very positive terms that none other than the bloody operation could be of any use. An American authority also had reported that in a large number of open operations only two or three had exposed an acetabulum in which it was possible to place the head. The views and practice of Lorenz, however, were those of one whose experience with the open operation had been greater than that of all other operators combined.

In one of the dissections reported by Dr. E. H. Bradford the capsule had been found pushed in front of the head of the bone in such a manner that a perfect reduction could not be made. This had led to the suggestion that in some cases the open operation might be modified by slitting the capsule instead of gouging or boring the bone which might lead to ankylosis or limited motion.

Dr. Jaeger thought that Hoffa was dissatisfied with the bloodless procedure partly because of the position in which he fixed the limb after reduction of the deformity. He applied the spica with the limb in extension and strong inward rotation, which could not afford a very firm hold for the femoral head in the acetabulum. In this position it was probable that relaxation would occur during the application of the bandage or on the first attempt at walking.

Dr. G. R. Elliott had passed several weeks with Lorenz in 1896 and had seen him operate

many times by the non-cutting method, having already begun to discredit the cutting operation, which he had done so much to perfect. There could be no possible doubt of the good results obtained. He had seen many instances and had repeated them in his own practice. Success lay in the thoroughness of the procedure and in the perfection of the technic. (1) The head of the bone should be brought down to the level of the acetabulum. (2) It should be lifted over the posterior edge of the acetabulum. (3) Abduction should be extreme, even posterior to the mid-plane of the body. (4) The plaster bandage should be pressed posteriorly against the joint to keep the reduced head from slipping backward. Great force was often required, but neglect of any point would leave the head of the femur resting on the posterior acetabular edge to be dislocated as soon as the bandage was removed. Lack of success would be due to want of technic leading to imperfect reduction. Thorough padding was necessary beneath the bandage. Blood had appeared in the urine of a patient operated on by him last week. The child had been laid face downward to facilitate fortifying the splint posteriorly and the soft plaster bandage had pressed against the abdomen and hardened. Cutting the bandage relieved pressure and the blood disappeared.

**Sea-Air for Tuberculous and Rickety Patients.**—Dr. Taylor, in his review of the treatment at Berck, said that Calot was an enthusiastic advocate of sea-air for patients affected with external or peripheral tuberculous lesions, those of the skin, glands, bones and joints. He rejected phosphorus in the treatment of rickets, prescribing intestinal antiseptics and a diet mainly of milk and eggs. Many of his patients were kept recumbent. He affirmed that rickety deformities would disappear during a sojourn at the seaside.

Dr. Sayre had listened to Calot as he described the advantages of seaside treatment. His interest in the subject was shared by others of his countrymen, whose native enthusiasm perhaps lent a too rose-colored light to their views.

Dr. Taylor had been impressed with the picturesque quality of Calot's writings. His zeal often broke through the conventional boundaries of scientific composition. The reader was entertained and delighted but not necessarily convinced.

**Treatment of Pott's Disease.**—Dr. Ely said that Lorenz used a corset composed of perforated strips of celluloid, metal bands and canvas. It laced in front and was probably sufficiently comfortable, but could not be said to "splint the spine."

Dr. Taylor said that although Calot declared that neither braces, plaster jackets nor corsets could prevent or arrest the deformity, all of his patients wore the plaster jacket after subjection to manual pressure directed against the kyphos. In certain cases ablation of the spinous pro-

cesses without invasion of the tuberculous territory was recommended in order to facilitate correction and avoid sores from pressure of the jacket. The use of suspension, the amount of manual pressure and the degree of lordosis to be enforced were points to be settled for each case. Severe pressure and all traumatism were to be carefully avoided, in marked contrast with the violent proceedings which called attention to the name of Calot in 1896, when he was claiming uniformly-brilliant results from the outlay of all his strength on the kyphos, supplemented with cuneiform resections in obstinate cases.

Dr. Sayre said that Calot's recent methods, as he had heard him describe them, varied but little from those of Dr. L. A. Sayre when he introduced suspension and plaster-of-Paris jackets. Calot had, however, secured a distinct advantage in extending the jacket up to the chin instead of stopping at the top of the sternum, thus promoting lordosis even of the lumbar spine and gaining a leverage over the entire spine which was impossible when the upper part of the vertebral column was free.

**Treatment of Joint Diseases.**—Dr. Ely said that at the Lorenz clinic joint diseases generally were treated by retention in plaster of Paris. The spica for hip-disease usually had an iron stirrup running down from the bottom to take up the weight of the body.

Dr. Taylor said that Calot very justly believed that a stiff joint in a good position was better than a movable joint in a bad position. It was his practice to reduce the deformity by force and retain the improvement with a plaster spica. Complete ankylosis in a bad position required subcutaneous osteotomy of the femoral neck.

**Treatment of Abscesses.**—Dr. Jaeger had noticed fewer abscesses in patients affected with hip-disease at Vienna than in patients of the same kind in America, which was not easy to explain except by climatic differences, as the poor there were poorer, and their nourishment probably worse than in this country.

Dr. Taylor said that Calot forbade incision, curetting and excision in Pott's and hip-disease, unless the joint or abscess was infected or a sequestrum was found. He took the ground that patients affected with these diseases practically always got well under closed treatment and always died under the open treatment. Abscesses were to be treated by roborant drugs, a full diet, correct hygiene and rest. A cold abscess might be aspirated through healthy tissue and medicated by injections. By repeated aspirations and the application of compresses and bandages openings which seemed inevitable might be averted and in from four to eight weeks the abscess would disappear without a scar and with healing of the bone in most cases. It was interesting to note that we had (1) in Calot a surgeon of ten years active experience, formerly an advocate of scraping, incisions and excisions, with the reputation of having done



80 excisions of the hip, who was now aggressively opposed to the operative treatment of diseases of the joints, and (2) in Lorenz a surgeon of great experience in the cutting treatment of congenital dislocation of the hip who had given it up in favor of a bloodless method. The coincidence and the contrast between the recent past and the present were quite impressive.

**Lateral Curvature from Division of the Spinal Accessory Nerve.**—Dr. R. A. Hibbs related a case as follows: A girl, fourteen years old, had had glands removed from the left side of the neck six months before she was first seen a few days ago. There was spinal curvature toward the right with drooping of the left shoulder, paralysis and atrophy of the trapezius and marked disability of the left arm. The patient declined an operation for uniting the ends of the spinal accessory nerve, which had evidently been severed at the point where it pierced the sternocleidomastoid muscle.

Dr. Myers recalled the case of a similar patient, fifteen years of age, whom he had been observing for three or four years. He saw her eighteen months after the paralysis, and considerable permanent atrophy of the muscles of the shoulder had set in. There was spinal curvature toward the opposite side which did not go on to be extreme and was easily controlled.

**Fracture of Cervical Vertebrae.**—Dr. Sayre related the case of a man who was carried home unconscious after a fall on the head and neck about two months ago. On regaining consciousness there was paralysis of the extremities, bladder and rectum, in which there was slow improvement after two days. As every attempt to walk increased his symptoms he was kept in bed several weeks. A diagnosis of fracture and dislocation of the fifth and sixth cervical vertebrae was made on his history, the flexion of the head, the absence of motion of the head and neck, difficulty in swallowing and the disability of the left upper extremity. The diagnosis was confirmed by skiagraphs, of which it had been necessary to take several from different points of view. One of the negatives was taken after fastening a bandage tightly over one shoulder and under the opposite arm-pit so as to make a gulch in which one edge of the plate had been forced as far as it would go. The skiagraphs and a brace were exhibited. The latter consisted of a leather and steel collar attached to posterior steel rods and a pelvis belt. The head and neck would be thus fixed until consolidation was assured, the brace being capable of easy modification from time to time as the patient improved. He recalled an almost exact counterpart in a case which occurred several years ago in which the application of a jacket and jury-mast had been followed by disappearance of the paralysis.

**Pneumatic Perineal Straps.**—Dr. Myers exhibited rubber tubes, 10 inches long and  $1\frac{1}{4}$  inches in diameter, designed to take the place

of the ordinary perineal straps. Smaller sizes were also made. Each tube was provided with a removable cover of canton flannel and a valve for inflation by a bicycle pump. The straps were not elastic. They were expensive, but very durable. The pressure made by them was equalized automatically and that made them especially comfortable for older children and adults whose weight made perineal support difficult.

## BOOK REVIEWS.

**TEXT-BOOK OF THE EMBRYOLOGY OF INVERTEBRATES.** By Drs. E. KORSCHULT and K. HEIDER. Vol. IV. Higher Invertebrates. The Macmillan Co., New York.

WE have referred in an earlier review of the three preceding volumes to the classical value of this Embryology. It is pleasing to have the work completed in the excellent manner in which it began and students of zoölogy are to be congratulated on having this excellent volume in English.

**ESSENTIALS OF HISTOLOGY.** By LOUIS LEROY, B.S., M.D., Professor of Histology and Pathology in the Vanderbilt University, Medical and Dental Departments, etc. 1900. W. B. Saunders & Company, Philadelphia.

THIS little book contains within a limited space and in a convenient form the essential facts relating to histology. Naturally enough nothing new has been found. The book is merely an epitome of more comprehensive texts. Each section is followed by a series of questions, the mastery of which insures knowledge of the salient points of the subject discussed. As far as it goes the text is reliable.

**PROGRESSIVE MEDICINE. A Quarterly Digest of Advances in the Medical and Surgical Sciences.** Edited by HOBART AMORY HARE, M.D. Volume IV. December, 1900. Lea Brothers & Co., Philadelphia and New York, 1900.

THE present volume of "Progressive Medicine" contains a review of the diseases of the digestive tract and allied organs, the liver, pancreas and peritoneum, by Max Einhorn, M.D.; genito-urinary diseases and syphilis, by William T. Belfield, M.D.; fractures, dislocations, amputations, surgery of the extremities and orthopedics, by Joseph C. Bloodgood, M.D.; diseases of the kidneys, by John Rose Bradford, M.D.; physiology, by Albert P. Brubaker, M.D.; hygiene, by Henry B. Baker, M.D., and a practical therapeutic referendum, by E. Q. Thornton, M.D.

Dr. Einhorn is a recent addition to Dr. Hare's corps of subeditors. His first article, on diseases of the digestive tract, shows that the readers of "Progressive Medicine" are to be especially well cared for in the matter of being kept up to date in gastro-intestinal nosology. There are discussions of the test-meal, of the gastric douche with double current, of the stomach powder-blower, and of molds in the stomach, that are of particular in-

terest to the stomach specialist. There is a very interesting review of the symptomatology of pancreatic disease. The following shows how practically our knowledge of diseases of the pancreas is developing: "The attack which culminates in pancreatitis is often one of several, not differing in its inception from others already recovered from, except in its severity and persistence. This is, particularly the case with alcoholics, who are exceedingly fond of calling themselves 'bilious' (whatever that may mean) and taking their blue mass to get straightened out from their indiscretion."

In the chapter on surgery of the extremities and orthopedics there is a very interesting review of the recent literature of gonorrheal arthritis which shows how much additional significance has accrued to this disease in recent years. In the chapter on diseases of the kidneys there is a very suggestive discussion of the relation of Bright's disease to syphilis. The question of prescribing mercury, even in the form of a purge, to patients suffering from renal disease, is taken up. Far from being considered harmful, as some claim, mercurial salts are set down as ideally beneficial in many of these cases, because of their purgative and slightly diuretic action.

The practical therapeutic referendum contains a series of prescriptions with discussion of their merits and mode of administration, and shows what new drugs have recently proved worthy of attention and how they can be best prescribed. It constitutes a valuable reference for the busy practitioner who hears of new drugs through the trade and wonders what their real clinical and scientific value may be.

**A TEXT-BOOK UPON THE PATHOGENIC BACTERIA FOR STUDENTS OF MEDICINE AND PHYSICIANS.** By JOSEPH MCFARLAND, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Medico-Chirurgical Hospital, Philadelphia. Third Edition. W. B. Saunders & Company, Philadelphia.

THE problem of insistent revision is ever presenting itself to those who have written on medical topics; in no subject is this more conspicuous than in the subject of bacteriology. The gradual but steady specialization that has taken place in the science, especially in relation to the public health and industries, has given us so much information on many themes that newer editions must perforce be brought to meet the demands of shifting and newer positions. Dr. McFarland has done his part so conscientiously that his book has met with corresponding success. Coming from a careful man, who has had such great experience, this was to be expected.

This edition has been considerably revised, and is chiefly characterized by a more consistent and uniform general treatment. Suppuration, from a purely bacteriological point of view, is well treated for the purposes of the student and physician. The chapter on tuberculosis is excellent; we are surprised, however, to still find that the Hirschfelder oxytuberculine has been retained. Facts do not warrant this. The article on diphtheria is one of

the best in the book and clearly sums up in a concise form our present views on this very important disease. The other sections are equally good. We further congratulate the author for his wisdom in introducing that important section on the standardization of media, so ably advocated by George W. Fuller (not Tuller) in 1895 and since urged by the Committee of Bacteriologists of the American Public Health Association.

We unreservedly recommend this book to those seeking general bacteriological information; its treatment is sufficiently flexible to appeal to both students and physicians.

**A MANUAL OF SURGICAL TREATMENT.** By W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, and F. F. BURGHARD, M.D., and M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London. Volume IV. *The Treatment of the Surgical Affections of the Joints (Including Excisions) and the Spine.* Lea Brothers & Co., Philadelphia and New York.

THE fourth volume of this thorough and excellent manual deals with the surgery of the joints. Dislocations, sprains and wounds are first considered. The diseases of joints in general, followed by those in particular, are next considered. The volume closes with the spinal diseases of surgical import—injuries, spina bifida, kyphosis and scoliosis, tuberculous disease and tumors.

Under the treatment of sprains, no mention of the ambulatory method is made. The authors recommend, however, early and continued massage, the injured member meanwhile being encased in a light splint.

The various methods of diagnosis and well-known forms of treatment of the different dislocations are given in detail. Perhaps the best chapter in the volume is the one on articular tuberculosis which is a splendidly-condensed epitome of present-day knowledge on the subject. Orthopedic appliances are fully described and in an appendix is given an elaborate series of "medical gymnastic exercises" well illustrated. Spina bifida is treated either by injection or by operation, the indications for each method being described.

Altogether this volume forms a fitting companion to its predecessors, although, contrary to their rule, several operative procedures are here described by the authors.

## BOOKS RECEIVED.

*The MEDICAL NEWS acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the MEDICAL NEWS will appear shortly.*

**PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION AT THE FIFTY-SIXTH ANNUAL MEETING,** held in Richmond, Virginia, May 22-25, 1900.

**UTERINE TUMOURS. Their Pathology and Treatment.** By Dr. W. Roger Williams. 8vo, 359 pages. Illustrated. William Wood & Company.

**INTRODUCTION TO THE STUDY OF MEDICINE.** By Dr. G. H. Roger. Authorized Translation by Dr. M. S. Gabriel. 8vo, 546 pages. D. Appleton & Company, New York.